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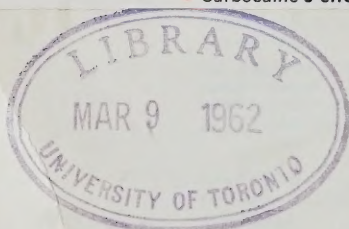
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The Canadian Dental Association

Volume 27

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JOURNAL

Manpower in Canadian Dentistry*

W. G. McINTOSH, D.D.S., M.Sc.D.,** Toronto, Ontario

The responsibility of a health profession is to provide the best possible health service to the public.

Applied to dentistry the phrase "best possible service" has many complicated and overlapping facets. Quality of service, quantity, distribution, and cost are just four of these variables about which lengthy, heated discussions could undoubtedly be initiated with the greatest

of ease. These points are mentioned here merely to set the stage and to start us thinking about some of the problems which are confronting our profession in Canada when we undertake to provide the best possible dental service to Canadians.

Obviously, one of the main requirements of a good dental program is to have a dental service available to those who want this service. From every province in Canada come repeated and urgent demands for dental service that is not presently available. It is this lack of service, and the consequent demands of the public, which are forcing governments and other

* Panel discussion presented at the Annual Meeting of the Canadian Dental Association, Ottawa, September 28, 1960.

** Associate Professor of Periodontics, Faculty of Dentistry, University of Toronto, and chairman of the panel on Manpower in Canadian Dentistry.

non-dental agencies to be interested in dental service programs.

Briefly stated, the chief causes for this lack of availability of dental service seem to be that:

1. The growth of our population is outpacing a proportionate growth in the number of dentists. This is indicated by a worsening of the ratio of dentists to populations.
2. The demand for services is increasing. Government action in the health service field has no doubt accelerated this demand.
3. The concentration of dentists in urban centres has left many rural areas without dental services.
4. The dental profession has been slow to adopt the rapidly spreading trend whereby auxiliary groups, and the services these groups render, increase the output and reduce the cost of the service. The experiences in this area within commerce, industry, and other professions are resulting in pressures for the application of these same principles to dentistry.

There is no doubt that an urgent and significant problem exists. Our efforts to find a satisfactory solution will to a large

measure determine the future of dentistry in Canada.

It is quite impossible to think of providing dental services without considering the aspect of dental personnel. To discuss this timely and important problem, this panel has been asked to deal separately with the role of the dentist, the assistant, the technician and the hygienist in that order.

I am sure the members of the panel need no introduction to this audience. Three deans and a registrar-secretary constitute a panel which will undoubtedly provide much food for thought.

Dr. R. G. Ellis, dean of the Faculty of Dentistry at the University of Toronto, tells us what he foresees in connection with the dentist's role. Dr. James McCutcheon, dean of the Faculty of Dentistry at McGill University discusses the role of the dental assistant. Dr. J. W. Neilson, dean of the Faculty of Dentistry at the University of Manitoba in Winnipeg, speaks on the subject of technicians in relation to dentistry, and Dr. W. J. Dunn, Registrar-Secretary of the Royal College of Dental Surgeons of Ontario, who has probably had more to do with the legislation and licensing of dental hygienists than anyone else in Canada to date, discusses the hygienist's place in our manpower problems.

170 St. George St.

DENTAL PUBLICATIONS OF CANADA

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Manpower in Dentistry — The Dentist

R. G. ELLIS, D.D.S., M.Sc.D.,* Toronto, Ontario

"Manpower in Canadian Dentistry" is the general topic for consideration by the panel. I suppose some of you would applaud if I could provide you with a concise, accurate statement regarding the dental personnel needs of Canada during the next twenty to twenty-five years. Perhaps the majority of you would not be prepared to accept the stark reality respecting the next two or three decades if I got close to portraying an accurate picture and I might even be burned at the stake for attempting to assume the role of a prophet. I remain calm in the face of this dire consequence knowing full well I probably won't get remotely close to reality. In fact, I have to admit that in my first serious attempt to do some "crystal ball gazing" I found myself rapidly becoming part of the problem, rather than contributing to the solution. Discouraging, to say the least.

Suffice it to say, I believe there will be a need for more and more dentists—come fluoridation, more public health education, or positive preventive measures. But — How many! That is the question.

PRESENT RESOURCES

A convenient place to start from, and possibly the safest, is to recall some known facts regarding the present ratio of dentists to the population. At the beginning of 1960 the ratio for all Canada, according to the Canadian Dental Association was 1 dentist to 3,018 people, and in the U.S.A., 1 to 1697. Why the difference?

Before attempting to answer that question let us look at a few more detailed figures for Canada. The provincial figures range all the way from 1 to 10,441 in Newfoundland, to 1 to 2,403 for Ontario. The County of York in Ontario, with 1 to 1,638, compares favourably with the ratio for the whole of the U.S.A. Are these wide variations significant from the standpoint of the future — do they mean anything to us at the present time?

An important factor to consider in arriving at a reasonable ratio of dentists to the population in any country, province or community is the concentration of the population in the area. Other factors affecting this ratio include the economic status of the people in the area, the level of general education of the people and particularly health education.

To suggest that Canada might require a ratio of dentists to the population, similar to that for the U.S.A., would be unrealistic because of the great difference in concentration of the population. There is an average of 58 people to the square mile in the U.S.A., while only 14 in Canada (excluding the Northwest Territories and Labrador). To arrive at a formula based on the integration of all the divergent facets of this problem would require the work of a mathematical genius.

The figures for Canada do point up the special problem, peculiar to a large country with a scattered population — with some areas enjoying a higher economic level than others and with variations in general education. Under these circumstances wide differences in the ratio of

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dentists to the population are inevitable. Therefore, our problem is not alone one of a shortage of dentists, it is one of distribution. I hear members of the profession say we don't need any more dentists in our area. However, there are a great many isolated communities which indicate that a dentist is urgently needed. We should not forget that these communities have the ear of the politician and the seriousness of this question of distribution should not be overlooked.

PROJECTED RESOURCES AND OBJECTIVES

In the remaining time allotted to me, I should like to draw your attention to three aspects of this topic. First of all, let us project through to 1980 what the dentist-population ratio will be if there are no new dental schools established in this period and if the existing dental school facilities in Canada are by 1965 producing new dentists at full capacity rate. This involves the study and integration of the growth of population through to 1980, of the number of active dentists who will be on the provincial registers during this entire period, and the effect on the overall numbers in practice by the addition of new graduates.

This year, 1960, the population of Canada is well over 17 million. From the Gordon Royal Commission Report on Economic Expansion you see in Table I the forecast of Canadian population growth through to 1980. It is to be noted that the actual 1960 figures are running a little ahead of the high estimate contained in Table I.

Table II shows the estimated number of dentists through to 1980 assuming that the present six Canadian schools will be graduating full capacity classes (317) by 1965 and thereafter.

Based on the population figures just examined in Table I and the estimated number of dentists shown in Table II, in Table III it will be seen that the ratio of

dentists to the population may improve slightly through to 1980.

However, the improvement is slight and failure to maintain the existing dental schools at full capacity could mean that the ratio would remain static. A fall-off of 15 percent to 20 percent below full capacity would result in a gradual further deterioration from the present ratio. As a matter of fact, the 1960-1961 freshman classes in the Canadian dental schools are 15 percent below capacity and this means that in all probability the graduating class in 1964 will be reduced by the same percentage. The importance of the recruitment effort for dental students is vital to this program. Each member of the dental profession should consider that he is on the front line of the recruitment effort.

TABLE I
Canadian Population Estimates from the
Gordon Royal Commission

Date	Low Estimate	High Estimate
1960	17,370,000	17,650,000*
1965	19,220,000	19,820,000
1970	21,160,000	22,130,000
1975	23,310,000	24,670,000
1980	25,770,000	27,530,000

* Dominion Bureau of Statistics gives population for 1960 as 17,814,000.

TABLE II
Estimated Number of Canadian Dentists assuming
graduating classes equal total capacity of schools
(317) after 1965

Year	69 Years of Age or Under	70 Years of Age or Over	Total
1960	5524.9	330.0	5854.9
1965	6117.6	457.0	6574.6
1970	6851.6	668.2	7519.8
1975	7740.2	662.2	8402.4
1980	8664.2	560.5	9224.5

Source: Division of Dental Research,
Faculty of Dentistry,
University of Toronto.
Survival rates computed using Commissioner's 1941 Stand-
ard Ordinary Mortality Table.

TABLE III

Projected Ratios of Population per Dentist in Canada based on Gordon Royal Commission
Population Estimates and Dental Manpower age 69 years or under from Table II

Date	Low Population Estimate	High Population Estimate
1960*	3143.9	3194.6
1965	3141.8	3239.8
1970	3088.3	3229.9
1975	3011.6	3187.3
1980	2974.4	3177.5

* Based on Dominion Bureau of Statistics 1960 population, the 1960 ratio is 3224.8.

Under these circumstances it is imperative that we deal separately with the distribution problem. Provision of adequate bursaries for carefully selected students, which would assure them of their expenses throughout their course, in return for a reasonable term of service in selected rural communities, would work toward rectifying some of the present discrepancies. The law of supply and demand is irrefutable. While the supply of dentists is below the requirements to meet the demands for all areas, the majority will gravitate to the regions of maximum demand, namely, the communities where the population is most heavily concentrated.

The second observation I would like to make is based on the assumption that the slight improvement shown in Table III is not satisfactory and that we must

aim at improving the dentist-population ratio by 1980.

Table IV shows what will be required to reach various objectives by 1980.

Suppose we aim at 1 to 2,500. This requires graduation of 317 new dentists each year from 1965 to 1968 and thereafter to 1980 an additional 133 each year, for a total of 450 per year.

To set our sights on a ratio of 1 to 2,000-2,200 would involve doubling the output by 1968 and continuing with 650 new graduates a year to 1980.

Returning to the objective of 1 to 2,500 by 1980 which seems to be more realistic and involves an additional 133 graduates a year, commencing in 1968, the additional facilities, probably two or three

TABLE IV

Estimated Dental Manpower 69 years or younger in 1980 according to varying number of new graduates from 1968 until 1980

	Increase over present capacity	Total Graduates per year	Estimate of Total Dentists in 1980	Population per Dentist	
				25,770,000	27,530,000
Decrease	67	250	7,871	3,274	3,498
"	17	300	8,463	3,045	3,253
Increase	33	350	9,055	2,845	3,040
"	83	400	9,646	2,672	2,854
"	133	450	10,238	2,517	2,687
"	233	550	11,423	2,256	2,410
"	283	600	12,014	2,145	2,291
"	333	650	12,606	2,044	2,184
"	383	700	13,197	1,953	2,086

Source: Division of Dental Research,
Faculty of Dentistry,
University of Toronto.

moderate sized schools, will have to be built and register their first classes by 1964. Planning for these schools should be underway now.

Occasionally, members of the profession will ask why it is that the output of the dental schools could not be increased by accelerating the curriculum or by greatly increased registration. Acceleration of the course would involve reduction of the summer vacation period and a shortening of the total length of the course. Such a program was advantageous in the emergency war years but our experience and that of the majority of dental educators leads us to believe that this is not the answer. Students must have time to relax mentally between sessions in order to be able to survive during the very concentrated effort they put forth in any academic year. This is very steadfastly maintained by educators generally. Greatly increased registration is dependent on the availability of sufficient candidates and even if they were available, there is a serious danger involved in mass education.

PRACTICAL OBJECTIVES

For my third and concluding observation I must return to the "crystal ball". I see in it the necessity for improving the ratio of dentists to the population, as the concentration of people in this country increases, with an increasing population. But I sense also tremendous difficulties in reaching the objective of even 450 new graduates a year by 1968.

The more practical approach to the figure 1 to 2,500 would be to increase training facilities on a gradual basis—with one new school accommodating 60-75 students in a class, and functioning by 1968, another of similar size by 1973 and another by 1978. I would couple with this the student bursary program designed to

bring aid to the more isolated communities. During the gradual build-up period, ample opportunity would be afforded for assessing the influence of future preventive measures, health education and improvement in equipment (e.g. high speed) and office procedures, on the dentist-population ratios.

Coupled with these factors will be the integration of auxiliary personnel into the practice of dentistry and their effect on the manpower situation. I am thinking particularly of the dental hygienist, and the more effective use of the dental assistant. In my opinion, our future is dependent upon our ability to graduate new dentists in ever increasing numbers along the lines I have suggested and at the same time to integrate more effectively than we have done in the past auxiliary personnel into the dental team.

RÉSUMÉ

Notre pays, malgré la fluoruration, malgré une éducation plus grande du public en matière d'hygiène dentaire, malgré des mesures de prévention, aura besoin de plus en plus de dentistes.

La population du Canada qui se chiffre présentement à 17,814,000 va dépasser les prévisions de la Commission Royale Gordon pour l'année 1960.

Les prévisions pour 1980 sont de 27,530,000 âmes. Les disponibilités actuelles pour former des dentistes, même fonctionnant à plein rendement ne pourront pas améliorer dans l'avenir la proportion des dentistes en rapport à la population. On croit, pour être réaliste, qu'une proportion d'un dentiste pour 2,500 personnes constituerait un objectif souhaitable pour les prochaines vingt années. Cela veut dire une moyenne de 133 diplômés additionnels à partir de 1968. On pourrait atteindre ce but en établissant deux ou trois facultés dentaires moyennes, une en 1968, une en 1973 et une en 1978. On devrait aussi ajouter à ces disponibilités supplémentaires pour l'enseignement un système de bourses pour les étudiants, organisé pour aider les municipalités éloignées qui n'ont pas de dentistes en nombre suffisant pour leurs besoins.

124 Edward Street

DENTAL PUBLICATIONS OF CANADA

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Manpower in Dentistry — The Dental Assistant

JAMES McCUTCHEON, D.D.S., M.S.D.*, Montreal, Quebec.

The general topic "Manpower in Dentistry" is a most appropriate and timely one for discussion at this time. Each of us has watched with mounting and a somewhat alarmed interest the worsening of the dentist per capita ratio as it has been reported each year. The situation approaches intolerable levels, and in my own province the problem is even more acute in that here the ratios are worse than the national figures by twenty per cent.

During the short period allotted to me this morning it is my duty to assess the contribution being made to the profession by the dental assistant, to measure the effectiveness of that contribution and, perhaps, to make suggestions which, in my opinion, may serve to improve the role which she may play in meeting one of the serious problems facing us to-day.

Allow me to turn first to a few general statements which have been made concerning the dental assistant.

The Canadian Dental Association has this to say concerning the dental assistant⁽¹⁾:

1. To encourage the development of the dental assistant's status within the dental profession.
2. To assist in developing suitable courses of training for dental assistants.
3. To encourage the employment of dental assistants by dentists in the interests of improved dental services—and—

4. In general to promote all ethical endeavours for the betterment of dental assistants for employment in dental offices and in public health activities."

Walsh ⁽²⁾ states the problem very simply:

"The almost universal character of dental disease in civilized communities results in a demand for treatment which the unaided dental profession cannot satisfy."

As a direct extension of the thought expressed here, I take the following quotation from Mann and Easlick's "Practice Administration for the Dentist"⁽³⁾: "Attention is directed automatically to the possibility of increasing the amount of dental treatment rendered by the available number of dentists. One of the most promising methods of ensuring that dentists are producing to the maximum is the complete utilization of auxiliary personnel. The dentist's office should be organized so that all of the necessary details and procedures that can be delegated are performed by other members of the staff."

The increase in effectiveness of the practising dentist in coping with the demand placed upon his professional skills through the use of auxiliary personnel has been measured in a variety of surveys. The Canadian Dental Association Survey of Dental Practice, 1958 ^(4,5) indicates that almost 13 percent of Canadian dentists did not employ auxiliary assistance in their offices, 64 percent employed one assistant, while 8 percent employed two assistants. The same survey notes that only 9.2 percent of mean gross income was devoted to the payment of salaries

* Dean, Faculty of Dentistry, McGill University.

in the dental office. Further, it was pointed out that as the dentist surrounded himself with more and more complex varieties of auxiliary assistance, mean gross income rose from slightly over \$10,000 to a little less than \$41,000. However, mean net income to the dentist did not follow this pattern. Mean net income rises rapidly as auxiliary personnel are employed and then strikes a plateau before falling, so that offices reporting the largest gross income reported net incomes lower than that of offices with less extravagant organizations. The survey shows that the plateau noted above occurs when the establishment is constituted by a dentist and two assistants. May I return to an earlier statement to point out that only 8 percent of Canadian dentists have learned this secret and taken advantage from it.

A similar survey carried out by the American Dental Association bears out what has been said here. This survey indicates that, working alone, a dentist rendered his professional services to about 650 patients in a year. One full-time employee raised the average so that 452 additional patients were treated, while two employees increased the number of patients treated to 1,356 or 702 additional patients.

Allowing permissible modifications for individual capacities and needs, time and place, there is in these statements an important message.

Other surveys by Klein (1944), by Moen, and by the American Dental Association (1950, 1953 and 1956) give the same message in different forms. Each indicates tremendous advantages in the operation of a dental office when qualified assistants were properly used.

The Richmond (Indiana)—Woonsocket (R.I.) studies by the U. S. Public Health Service resulted in the recommendation that one and one-half assistants per dentist appeared to be optimal. Their suggestion was that earlier studies, noted above, were conservative in their predictions.

It would therefore seem that, properly used, the dental assistant can play, and is

playing, an extremely important role as a member of the manpower team in dentistry.

It was considered important to the preparation of this paper that pertinent questions be directed to authoritative sources of information on this subject in order to develop a composite picture of the dental assistant in Canada today. To that end, seventeen dental nurses' and assistants' associations were polled. Questionnaires were sent to one hundred and fifty dentists. A total of 578 lengthy questionnaires were sent to individual dental assistants. The returns, having regard for an understandable antipathy to the questionnaire technique, were considered excellent. A reasonable coast-to-coast coverage, at least in each category, was achieved.

DENTAL ASSISTANTS' ASSOCIATION QUESTIONNAIRE

From the eight questionnaires returned by the associations I learned that the Canadian Dental Nurses' and Assistants' Association serves as the parent body to a group of local and provincial associations. The ties between the Canadian Dental Nurses' and Assistants' Association and the Canadian Dental Association are tenuous, and may in fact be wholly described in the interest of the Canadian Dental Association as expressed in the general statement of policy mentioned earlier. I had the feeling that the dental assistant would like to see this bond strengthened considerably. The benefits, I am sure, of associating this class of dental auxiliary more firmly with the profession and thereby strengthening her position on the "manpower" team would be significant and considerable.

The different associations represent roughly one third of the young women acting as dental assistants in their areas. Each of the associations reported that regular meetings, featuring scientific programs aimed at rendering their membership more knowledgeable and proficient, were being offered.

I was impressed with the obvious pride and loyalty which the associations have for their vocation. The following statements reflect their conception of a dental assistant:

"A good dental assistant is as another brain and a second pair of hands in a well-organized office."

"A girl who assumes all responsibility in the dental office with the exception of operative dentistry."

"A second pair of hands and 'co-worker' in the office."

"One dedicated to her work and doctor."

I asked "what single recommendation would you make to improve the contribution the dental assistant makes to the profession?" The following replies were received:

"A dental assistant's course."

"Certified education."

"An educational program leading to a certificate."

"Regular attendance at association meetings."

"Education."

"An opportunity for training as dental assistants."

"Compulsory joining and attending dental meetings to form a better association."

The consistent feature in these replies is—"a means to increase our understanding that we may better serve."

DENTISTS' QUESTIONNAIRE

Of the 77 replies received from the dentists to whom questionnaires were sent only one did not employ at least one assistant of some nature. All except six of their assistants had had "on-the-job" training in a dental office. Forty-four replies indicated that the dentist preferred to train his assistant himself in his own office. These dentists were requested to

estimate the increase in their gross income as a direct result of the efforts of their dental assistant. Replies varied widely with an overall average taken at 28.6 percent. This is further evidence in support of the valuable role the dental assistant plays on our "manpower" team.

Asked what single recommendation could be made to improve the contribution of the dental assistant the dentists replied as follows:

"Higher salaries."

"Recognized courses."

"Extension of duties."

"More careful selection."

"Make her a more integral part of the profession."

"Teach them to smile."

"Avoid having family."

DENTAL ASSISTANTS' QUESTIONNAIRE

The 201 replies to our questionnaire directed to the dental assistants showed that respondents were employed in all Canadian provinces. One hundred and ninety-nine classified themselves as dental nurses or dental assistants, one as a dental hygienist and one as an executive secretary. Only ten had not completed elementary school education; forty-one had done so. Ninety-six had completed junior matriculation and thirty-nine had achieved senior matriculation. Nine had attended university. As to training for their work in the vocation, eighty had had some course or combination of courses for the dental assistant, dental nurse, dental hygienist or Registered Nurse. One hundred and twenty-seven reported no special courses, having been trained in dental offices only.

In a general way the average age of the young women responding was found to be 29.6 years. On the average they followed their vocation for 6.4 years each. The great majority, 132, have held only one position as an assistant. The working day for the average dental assistant is long although many added the comment that unpaid overtime was not unexpected,

if not in fact the rule. The average assistant assists only one dentist (181). Most are single (146), yet 50 reported that they were married and of these 17 had children.

In an effort to learn something of the responsibilities accepted by the dental assistant in the office, respondents were asked to note which of 27 random duties were included as a part of their own every-day experience. An impressive number reported that they did all of these and some added supplementary items, including scrubbing floors, washing walls and doing the dentist's personal shopping. These responses are detailed in Table I.

It would seem that the definition of a dental assistant by McGehee, True and Inskipp⁽⁶⁾ is not so completely out of keeping with the facts when it is said that "the only duties of the dentist are those which the assistant cannot, or is not allowed by law, to do."

An attempt was made to balance against these responsibilities the rewards offered to the dental assistant. The results of this part of the questionnaire are detailed in Table II.

The normal situation of the dental assistant does not provide for fringe benefits or incentive benefits in most cases.

Considerable interest was expressed in courses which would serve to improve the contribution of the dental assistant. One hundred and sixty-nine respondents were interested in courses for the dental hygienist. The recommendations which were felt to have the greatest potential in improving the contribution which the dental assistants can provide were concerned with grievances about:

- Overtime work
- Withholding salary for absence due to illness
- Failure to provide meals when overtime work is required
- Assignment of menial tasks ("We are glorified charwomen")

However, through the long list of replies a strong and serious current of

thought was evident. The general concern felt for the relative absence of "fringe" benefits was considerably less than I had anticipated. There was a natural expression for higher salaries, of course. However, the strongest concern, most often repeated, was for the following:

A higher standard of selection based primarily on educational background.

The availability of courses of training.

A recognition by the dentist and the profession generally for the contribution she makes.

The desire to be permitted to use the knowledge and ability which she now has (e.g. taking radiographs).

Desire for a union. ("Why take a course at this pay—we need a union!")

SUMMARY

Previous surveys have indicated the optimal number of assistants per office and the additional benefits this may bring. Attention is directed to the comments and recommendations of the respondents to the author's questionnaires as reported here.

The dental assistant makes an essential and considerable contribution to the work of the profession; a contribution which, through her intelligent and perhaps broadened use, may well diminish the manpower problem.

For the contribution which the dental assistant is making and may make, the profession owes respect commensurate with the effectiveness of her efforts.

I suggest that the policy statement of the Canadian Dental Association concerning the dental assistant must not only be endorsed but expanded so that the dental assistant may be brought into more intimate contact with the dental profession and that she may feel more clearly her position in a respected and desirable vocation. The relation between her associations and the Canadian Dental Association should be more clearly defined and it is suggested that this may best be accomp-

TABLE I

Duties Performed by Dental Assistants in Canada

	Yes	No		Yes	No
Greeting patients	195	6	Banking	140	61
Telephone answering	192	9	Billing	169	32
General chairside assisting	193	8	Minor laboratory procedures	137	64
Passing instruments	166	35	Arranging appointments	191	10
Mixing of cements	188	13	Operating recall system	168	33
Mixing of amalgam	190	11	Minor cleaning	191	10
Preparation of impression materials	160	41	Major cleaning	79	122
Preparation of operating room	170	31	Running messages	148	53
Preparation of bracket table	180	21	Ordering supplies	190	11
Seating patient	198	3	Typing letters	147	54
Instrument sterilization	199	2	Paying office bills	146	55
Writing up charts	123	78	Care of instruments	196	5
Maintenance of office records	176	25	Laundry arrangements	174	27
Bookkeeping	151	50			

TABLE II

Rewards Offered to Dental Assistants in Canada

Benefit	Value	No. of Respondents	
		Yes	No
Starting average weekly salary in present position	\$34.37		
Present average weekly salary	\$49.28		
Does the assistant receive a percentage of gross office income		14	187
Does the assistant receive a percentage of delinquent accounts collected through her efforts		6	195
Does the employer offer a salary range with periodic increases		53	148
Is unemployment insurance provided		166	35
Is life insurance provided		11	190
Is an annuity or pension provided		18	183
Are uniforms provided		124	77
Are office shoes provided		22	179
Is uniform laundering provided		131	70
Does the employer pay the assistant's association dues		31	170
Paid vacation entitlement—1 week			5
2 weeks			110
3 weeks			50
4 weeks			21
5 weeks			1
10 weeks			1

lished by the adoption of inter-organizational agreements which will give authoritative recognition to the assistant's place in dentistry, establishing requirements for her selection and training.

The expansion in permissible duties of the dental assistant suggested for the future has not been dealt with here deliberately. This forward-looking step, as embodied in several reports to the Board of Governors, should receive whole-hearted support as an important potential means of meeting the serious manpower problem.

We shall hear later this morning something of the "technician problem". The plaintive cry already noted—"We need a union" may well be a clue for our guidance. My opinion is that we, the profession, have had much to do with the creation of the technician problem. We do not recognize the technician as a member of the manpower team any more than the dental assistant is recognized. We have had as much, or as little, to do with the training of the technician as we now have with the training of the assistant. The major portion of legislative action taken has not been for the technician but against him. I suggest we now begin to expand our interest on behalf of the dental assistant to replace the detectable attitude of passive acceptance.

RÉSUMÉ

Le relevé sur l'économie de l'exercice dentaire entrepris par l'A.D.C. en 1958 montre que 13% des dentistes canadiens n'ont pas d'assistante dentaire. Seulement 9.2% des revenus bruts est dépensé pour des salaires au cabinet du dentiste. Les revenus bruts, d'un dentiste augmentent de \$10,000 à quelques \$41,000., quand il utilise les services d'une assistante. Les revenus nets montent aussi rapidement pour atteindre un palier, quand le dentiste utilise les services de deux assistantes. Les bureaux qui ont les plus gros revenus bruts ont des revenus nets moindres que ceux des bureaux qui ont une organisation moins élaborée.

La plus grande proportion des assistantes dentaires reçoivent leur entraînement pour leur travail dans le cabinet du dentiste. Les organismes qui groupent les assistantes dentaires au Canada souhaitent tous que des cours soient organisés officiellement pour elles et que la collaboration qu'elles apportent dans les services dentaires reçoivent une plus grande reconnaissance. On suggère que la profession dentaire s'intéresse davantage à la formation, au travail et à l'embauchage des assistantes dentaires.

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McGill University

DENTAL PUBLICATIONS OF CANADA

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Manpower in Dentistry — The Dental Technician

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A 276 page volume on the history of the dental laboratory in the United States was published in 1958. In it, the author, a dental technician of long standing and apparently high repute, makes the following statement: "The dental laboratory is a business enterprise . . . and the fact remains that unless the laboratory is a successful business operation neither the technician nor laboratory can long endure."⁽⁹⁾ This observation did not originate in 1958, nor is it by itself a unique or dishonourable objective, and certainly there should be a note appended to the effect that the majority of dental laboratories have included in their aims, a concept of service along with this concept of financial gain. Nevertheless, there cannot help but be periodic difficulties arise when an intimate association exists between an auxiliary group, namely the technicians, who by definition, must pay close attention to economic success, and a professional group, namely the dentists, whose code of ethics at least, places primary emphasis on the principle that the good of the patient must supersede the element of financial gain, or as Hollinshead has remarked of a health profession, "It must make judgments of its patients unaffected by self-interest"⁽⁷⁾. This fundamental difference seems to become particularly

evident when the technician and the dentist must "stand up and be counted" on questions of vital interest to themselves and to the public. This thinly veiled reference to the encroachment by the technician on the mouth, whose anatomy has, until recently, been legally regarded as the traditional operating field of the dentist, merits a further word of explanation in the light of the controversial significance attached to this encroachment by both professional and lay people here in Canada in recent years and months. And just as Clemenceau is reported to have said that war was much too important to leave to the generals, so it might be said that the political figures of today, and perhaps the public as well, seem to feel that health problems are much too important to be left in the hands of the health professions⁽⁷⁾. Be all this as it may, there is no doubt that my entire time on this panel could be spent decrying what appears in some areas of this country to be a trend toward dental practice by people who are neither properly trained nor properly educated to perform any intra-oral procedure whatsoever. In rejecting such an approach, I felt that my listeners were already converted—and that furthermore, there appeared to be little that has not been written or said many times before, with much more emotion or reason or lucidity than I would be able to muster here today. Therefore, and while the temptation to

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present a sharp denunciation of these activities has been resisted to as great an extent as possible, it will be apparent as the paper progresses that the problem of illegal practice cannot be completely divorced from certain other problems confronting the ethical technician.

These other problems include the quality of his leadership, the quality of his training, the extent of his ethical responsibilities, and the definition of his legal status, as well as the ever-present and oft discussed need for improved dentist-technician relationships. These then are the primary points to which your attention will be directed, although some, of necessity, must be considered in a most superficial manner.

NUMBER OF TECHNICIANS

It has been reported recently that there are 1,900 dental technicians in Canada, which gives us a ratio of 3 dentists to 1 technician⁽⁶⁾. This number will vary considerably however, depending on precisely what one includes in his definition of a technician. One provincial dental registrar, for example, reports an active membership of 60 technicians in the organized provincial body which claims at the same time to speak for 150 more. In the same province as well, it is said that there are some 70 unethical technicians at work more or less full-time to which may be added an unknown number of "denture makers" working evenings for "friends". The daytime occupation of these erstwhile prosthodontists is unknown. In another province there is an organization of almost 400 technicians but there are a further 200 not belonging to this association, and in the words of a dental official, "working illegally and more or less openly".

The majority of reporting countries in a world survey of technician populations reveal ratios between that of Czechoslovakia with a one dentist to one technician relationship and that of the United States where there are 4 dentists to every technician⁽⁵⁾. Canada with its 3 to 1 ratio would appear to lie within this range, but

the fact that no one really knows how many dental technicians there are in this country is perhaps one of the best pieces of evidence that the ingredient of leadership is seriously lacking in the technician picture—but more will be said of this unfortunate deficiency later. It also seems impossible to state with any degree of assurance what the ideal dentist-technician relationship should be, but there seems little doubt that there is a wide shortage of good technicians, and in some areas at least, a plentitude of mediocre or poor ones⁽³⁾.

TECHNICIAN TRAINING

To link together this question of technician numbers with that of technician training, I might mention that in 1959 as a member of a Committee responsible for establishing a curriculum for technician training in Canada, I was surprised to learn from the technicians themselves in the Province of Ontario, that in their opinion, they could only absorb, without hardship and turmoil, 10 new trained technicians per year in that province. On the basis of this solitary statistic, along with that of dentist distribution elsewhere (both of which admittedly may not be too sound criteria), the Province of Manitoba, for example, could support only 1 new technician a year. The four western provinces together could stand fewer than 6, as could Quebec, while the Maritimes could admit 1 or 2 new technicians annually. There would be a total of only 23 required for the entire country. If these figures are correct, it appears unwise to seek wide establishment of formal technician training courses in view of the prospect of extravagantly small classes.

There is no doubt in my own mind, nor in the minds of others much better qualified than I, that from the long-range point of view of the profession, the technician, and the public, formal programs of training, in whole or in part, should be established as soon as is practical, and that the principle of their incorporation within a dental school is good⁽¹⁰⁾. You have noted

that I have excluded the universities from this statement. I have done so because quite apart from the aforementioned potential shortage of students, an economic fact of some importance even in academic life, Canadian universities look with disfavour, which in some quarters borders on disdain, upon the establishment of purely technical courses within their framework. Then too, institutions of higher learning seem more and more inclined to insist upon higher entrance requirements to any of their faculties, schools, or courses, and whether Senior Matriculation should be an absolute requirement for this type of program is questionable.

What success there may be in convincing any university of the wisdom in admitting such a training facility to even the fringe of its academic ranks, will depend on such influences as the university's traditions, its sources of support, and the local circumstances prevailing at any given time, amongst which must be included the legislation governing technicians' duties and qualifications in adjacent areas.

In any event, the Curriculum Committee to which I made previous reference, recognized that these and other obstacles precluded the immediate and universal initiation of the more desirable formal full-time or half-time curriculum, and so it settled for an apprenticeship type of program, details of which may be found in the 1959 Transactions of this Association⁽⁴⁾. I do not feel the Committee itself, the Council on Education or the Board of Governors really believed that this was the complete answer, but rather that it was a compromise dictated by present events and circumstances and that furthermore, it did represent an official step in the right direction.

Coupled with this need for proper training programs is the role played by that program in eliminating illegal practices. One widely-held opinion appears to be that if stricter penalties, including jail sentences, were applied to convicted offenders under dental practice acts, the

activities of such illegal operators would be markedly reduced. In a global review of this seemingly widespread problem, however, it appears that factual information has proven this opinion to be erroneous, and that if a single deterrent exists to illegal intra-oral practice, it lies much more in the field of education than it does in the field of penalty⁽⁵⁾. This circumstance should not be overlooked by any professional or lay person when he is considering remedial (or preferably preventive) measures to combat this iniquitous malady. The beneficial effect of the technician's own recognition that a "little learning is a dangerous thing" is borne out by the favourable comments of those who have had charge of well-organized technician training programs and by the behaviour of the technicians produced by those programs^{(3), (17)}, and it bears out as well the words of the most widely recognized and respected of all Canadian health educators, Sir William Osler, who some 60 years ago observed that "the higher the standard of education in a profession, the less marked will be the charlatanism, whereas no greater incentive to its development can be found than in sending out from our colleges men who have not had mental training sufficient to enable them to judge between the excellent and the inferior, the sound and the unsound, the true and the half true"⁽⁸⁾. This remarkable and wonderfully able man was of course speaking of professional education, but it seems to me that the same may be said of technical training of this kind as well.

To digress briefly and look at the status of our American neighbours whose proximity always makes them worthy of comparison and contrast, it might first be noted that the idea of a "central" dental laboratory (outside the dental office) was conceived at least as early as 1854 in the United States, but the year 1887 is given as the date of founding of the "industry" (a name, incidentally, given themselves by the technicians)^{(10), (11), (12)}. We in Canada should probably not be too downhearted therefore when we read that only in 1959—almost 65 years later, a National

Association of Dental Laboratories was formed⁽¹³⁾. Not until 1958 was an official policy adopted on formal training and not until the end of 1963 will technicians be compelled to undergo actual and stipulated formal training programs in order to qualify for certification in any one or more of five laboratory "specialties"⁽¹⁾. In this five-year interval (1958-63) a type of grandfather clause is being applied, and by the end of 1959, over 1,600 American technicians had qualified through the age-old medium of examination based on practical "on the job" experience, or in other words, by way of the apprentice system⁽²⁾.

LARGE AND SMALL ESTABLISHMENTS

Time permits only a cursory glance at one aspect of the laboratory which seems to have rather crept up on us but which may assume greater importance in the future. This is the situation in which the big laboratory, with its impersonal but oftentimes more efficient production methods gets bigger, while the small laboratory, with its more personal but sometimes uneconomic methods gets smaller. Sallstrom has dwelt at some length on this drift toward "bigness" in an interesting publication on technician training in Sweden⁽¹⁵⁾. If there is in this country such a tendency toward what I shall call mass production, it is by no means confined to dental laboratories, and Royal Commissions have studied the plight of the so-called "marginal operator" in many lines of endeavour, ranging from grocery stores to fruit farming. The ultimate outcome of this trend could be the elimination of the "little man" from the laboratory field with the individual either becoming an employee of the larger and now more monopolistic laboratory, or leaving the field entirely—or I suppose he might feel more disposed to turn to unethical intra-oral practice. It has been pointed out repeatedly that the technician (or the dentist) who resorts to questionable practice is the one who frequently, but not always because of inadequacies in

his digital skills or in his temperament, is having a difficult time financially. He is, in reality, unable to achieve financial or psychological stability in the orthodox laboratory routine. If it is at all possible therefore, it would seem to me that the dental profession should try to maintain the small laboratory in business, and the dentist, more than most consumers, has the power either to maintain or to destroy the smaller operator. I realize, however, that economics cannot be ignored in these matters nor can dental progress with its more complex techniques, and it may be that the day of the small laboratory man is passing. I hope not, and my reasons are more than sentimental. At the same time, one cannot be critical of the large laboratory's businesslike aim of becoming more efficient—it is merely that I believe the overall public and professional good would best be served if it were feasible for both species to continue successful and satisfactory operation.

LEADERSHIP

The calibre of leadership is always of great importance in any group, whether it be in the realm of internal politics or international affairs, professional auxiliaries or in professional bodies themselves. Technician leadership in some provinces does not seem to have been consistently high, although this fluctuation can be readily explained when one hears of the aura of suspicion and disagreement which frequently prevails between technician and dentist, between the large laboratory and the small laboratory, and between employer and employee. At the same time though, it is rather bewildering to learn that the vice-president of a provincial technicians' association was convicted of illegal practice twice, yet still retained office, and that, less surprisingly, other members of that same association remained in "good" standing, despite 5 or 6 convictions for the same offence. It seems self-evident that if there could only be continuing good leadership of both technicians and dentists, all the other problems

—legislative, educational and economic—could be discussed more frankly and solved more easily.

The development of leadership is a study in itself and it would be extremely presumptuous for me to try and outline in even general terms what the profession should do provincially to encourage its development in technicians, because, quite apart from intruding in your affairs, the form of encouragement will vary considerably from time to time and from place to place. I would be so bold as to say, however, that care and tact and discretion must be exercised by any dentist who takes even the most altruistic interest in this important problem, and perhaps the phrase "judicial paternalism without undue intervention" is the one which might best apply.

Any objective study of the history of dental laboratories across Canada would indicate that technician leadership on a national basis has not been consistently outstanding either, and indeed it could be said perhaps to have been completely absent, simply because there is, to my knowledge, no national organization of technicians. This deficiency cannot really be blamed on the technicians nor can it be blamed on the dental profession. However, in harkening to the future rather than in bemoaning the past, it would now behoove the profession to give tangible support to anything which would aid the technicians in the establishment of a strong national organization for themselves. An early step along this road might be the convening of a conference of technician leaders from each province with substantial subsidization of such a conference by the Canadian Dental Association. This meeting should be attended by both employers and employees and it would probably be better to "over-invite" than to "under-invite". Conferences of this kind have already been held under Association auspices and the only departure from established principle in this case would be that it is being held for and by technicians, and not for and by dentists.

There may be little agreement on many matters relating to technicians, but certainly there can be nothing but unanimity on the idea that the technician is "here to stay", and as long as he is as closely allied with the profession as it appears he will be, the profession might properly assume some concrete responsibility for helping him solve problems of mutual concern and interest, keeping in mind the previous admonition of "judicial paternalism without undue intervention".

Then too the Association might give consideration to the appointment of a Committee on Laboratory Services as a separate and distinct committee from the present Committee on Auxiliary Services, with whom, incidentally, I have no quarrel, and for whose work, under the experienced chairmanship of Dr. R. A. Rooney I have high regard. The advocacy of such a step is made only on the basis that it would lend demonstrable emphasis to the importance attached to the role of the dental technician, and the institution of any such symbols of increased attention by the profession to its auxiliary arm would seem to be worthy of investigation, particularly in these days of change, and soul searching, and appraisal by ourselves and by others.

Some of my listeners may say there is danger in all these proposals. I agree that there may be. I dare say that high on some lists of dangers would be an increase in laboratory fees. Undoubtedly if some or any of these suggestions were followed and followed well, higher fees would result, but if nationally and provincially, a better sense of leadership, and stability, and responsibility in the technician group were to evolve as a result of such an increase, then the advantages would manifestly outweigh the disadvantages and the benefits would apply not to the technician alone, but rather to everyone concerned, including the patient whom we should all strive to serve to the best of our collective yet sometimes limited abilities.

In 1943 Dr. Raymond Wells, the then president of the American Dental Asso-

ciation, addressed the Ohio State Dental Laboratory Guild, and in the course of his remarks, he asked himself the question: "Now what do the dental technicians want and deserve?" He then answered his own question in these words: "They want good, comfortable, healthy and pleasant working conditions, a fair wage and some assurance of security so they can live respectably and happily, have a home and good living conditions for their families. They want a continuous education program to keep them abreast of improvements in their craft. They want and merit our respect. They want to eliminate unfair competition, unfair labour practices, boot-leg dental laboratories and poorly trained technicians." Wells commented further: "It doesn't take legislation to get (these things) but it does take interest, planning, study and action."⁽¹⁴⁾

It seems to me that what was said almost 20 years ago by Dr. Wells about the hopes of the great majority of technicians still holds true today for that same majority, and I believe, incidentally, that we must always think in terms of majorities. I should like to think that Canadian dentists in 1960 are sympathetic to these sentiments as well, not because they were uttered by Dr. Wells in 1943 in Ohio, and not because they have been reiterated here in Ottawa this September day 17 years later. Your sympathy would be of a deeper and more worthy and more lasting nature if it were prompted by your realization that these are, after all, only the normal ambitions of a person who, while seeking comfort and security in today's world like the rest of us, is, we hope, prepared to assume obligations as well, and that in the final analysis, they represent only the conventional aspirations of a conscientious and essential business man as he considers, both philosophically and pragmatically, the extent of his everyday secular responsibilities, living as he does, in a free western society, during the latter half of a changing twentieth century.

RÉSUMÉ

Environ 1,900 techniciens dentaires exercent leur métier au Canada. Ce chiffre repré-

sente un technicien par 3 dentistes. Ce nombre est plus que suffisant et la situation des individus qui voudraient se faire techniciens serait difficile. Le moment ne serait donc pas bien choisi pour établir des cours officiels pour des techniciens; néanmoins la profession dentaire doit songer pour l'avenir à formuler des normes pour former des techniciens en contact étroit avec les facultés dentaires. L'exercice illégal ne s'arrêtera jamais par des mesures punitives. Les solutions à ce problème doivent se trouver dans l'éducation et dans l'amélioration du statut du technicien. Il y a des lacunes déplorables dans l'organisation des techniciens dans diverses régions du pays. Ce manque d'organisation se traduit par des frictions entre le dentiste et le technicien, entre les petits et les gros laboratoires, entre les employés et les employeurs. Il faudrait un organisme fort pour les techniciens au niveau national. Il faut que la profession dentaire prenne un intérêt sympathique et courtois à la cause des techniciens. Les dentistes, pour réaliser cet objectif, pourraient peut-être d'abord convoquer une réunion nationale des représentants des techniciens de chaque province. L'Association dentaire canadienne pourrait aussi constituer un Comité des Services des Laboratoires, qui serait distinct du Comité des Services auxiliaires.

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University of Manitoba

Manpower in Dentistry — The Dental Hygienist

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Dental hygienists, generally, and as we know them in Canada, are women who have graduated from approved Canadian or American courses in dental hygiene and have become registered and licensed to practise under the supervision of a licensed dentist in any Canadian province possessing the appropriate statutory authority. All Canadian provinces have the broad legislation necessary to make the services of dental hygienists possible within their respective jurisdictions although Alberta, Newfoundland, and Quebec, as yet, have not created or have not been able to develop the necessary regulatory provisions.

RESOURCES

Broadly speaking, Canadian dental hygienists are permitted to perform prophylaxes, apply topical fluorides, render first aid when required, take and develop radiographs, and act as dental health educators. In Manitoba, The Dental Association Act assented to on March 26, 1960 makes provision for an addition to the recognized procedures: "taking of impressions of the mouth from which artificial dentures can be made, determining and recording the relationship of one jaw to another and repairing minor cracks in artificial dentures and replacement of broken or lost teeth in artificial dentures".

On June 5, 1960 some 98 dental hygienists were registered in Canada and of this number 9 were registered in two provinces. Seventy-five hold an active license to practise and of this group 55 are estimated to be actively engaged in private practice, public health, or in teaching responsibilities on a full-time or part-time basis. Thus 44 per cent of Canada's hygienists are not available for the current practice of dental hygiene in any of its facets. There is, then, one active hygienist to one hundred dentists, and to 300,000 people. Under these circumstances it is difficult to measure the significance of the contribution of this group to the dental health of the Canadian public.

Although the first course in dental hygiene was given in the United States in 1914, it was not until 1951 that the University of Toronto established the present and only existing Canadian program. Since 1953, when the original five diplomas were granted, this number has increased to 63 including the six members of the class of 1960. Next year's potential of 10 will not greatly affect the aforementioned ratios especially in view of the matrimonial mortality which is almost certain to occur.

If a dentist is sufficiently fortunate to be able to engage a hygienist he should consider doing so if his practice has grown to that point at which he is attempting to

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render adequate care to as many as 500 patients in one year. The employment of a competent hygienist should provide the dentist with 25 additional weeks of 35 hours each to devote to the more complicated phases of dental practice for which he, only, possesses the competence to perform.

FUTURE TRAINING PROSPECTS

The future of education in dental hygiene tends to be somewhat obscure in Canada, particularly in Alberta and Manitoba wherein legislation exists to authorize services by auxiliaries or aides.

The University of Toronto has a capacity of 50 students per class but unless there is a startlingly dramatic upsurge in applications the course of study will continue with classes far below maximum. No plans presently exist for any significant departure from the traditional curriculum although this matter will certainly be under consideration by the Faculty Council especially in view of the indicated intent of the Board of Directors of the Royal College of Dental Surgeons of Ontario to consider amending the existing definitive regulations to permit a broader spectrum of activities.

There appear to be optimistic prospects of the commencement of a course within the University of Manitoba in September 1961. The class limit will be approximately 10. The duration and content of the course are not yet clarified in view of the existing Manitoba legislation. It appears more than probable, however, that the course will embrace several facets of technical services beyond those presently recognized as indigenous to dental hygiene.

McGill University finds it impossible at this time even to estimate a probable commencement date in view of the problems in space, equipment, and staff. The Faculty, however, accepts the proposition that one of the responsibilities of an accredited dental school shall be in the field of auxiliary personnel training. Preliminary considerations indicate a possible en-

rolment of from 10 to 15 students in a course of two years' duration. While the Faculty is of the opinion that the operating sphere of the hygienist will eventually be rather broadly redefined, at the outset it is expected that the traditional curriculum will pertain. The scope of training, however, will be largely dependent upon the extent of services yet to be enunciated by the Quebec College of Dental Surgeons.

For some three years the University of Montreal has been considering the establishment of a course in dental hygiene but, at this date, such thoughts are no more than conjectural. It would appear that a clarification of the legal privileges to be accorded hygienists by the Quebec College of Dental Surgeons might accelerate a program in our French-speaking school.

The Board of Governors of Dalhousie University in 1958 approved, in principle, the establishment of a program subject to financial and personnel requirements. There appears every likelihood that a class of about nine students will begin on a two-year diploma course of the traditional type in the fall of next year.

The University of Alberta plans to offer a course in September, 1961. The class limit will be 10 to 15 and the duration will, again, be two years. The Dental Auxiliaries Act (Alberta) makes possible the employment of dental auxiliaries in health unit centres where, under the supervision and direction of a dentist, such personnel will be permitted to perform services beyond the present scope of dental hygienists but not to involve operating on any oral tissue. The regulations pursuant to this Act have not yet been fully approved as the extra duties which will devolve upon the auxiliaries will be developed through experiment and experience. It is of interest that the Dental Auxiliaries Act does not limit admission to this field solely to women.

Thus it is possible that one year hence there may be an enrolment of 84 first-year students proceeding on a dental hygiene program — or a modified one — but this

is highly improbable. As the University of Toronto averaged only 8 students per year over the eight graduating years it seems that even the most optimistic could hope only for a relatively small fraction of this enrolment possibility.

Well, to the best of my knowledge, these are the facts. Where do we go from here? Dean Fleming of the University of Southern California had this to say about dentistry's responsibilities in this regard: "The dental profession exists for a number of reasons, but mainly to provide dental service to the people. Our other functions are to expand the frontiers of dental knowledge, develop new procedures, educate our successors, supervise and discipline members of the profession and provide guidance and leadership for the people in the area of our special competence. In order to help us accomplish these ends, the State has granted us a virtual monopoly to practise dentistry. For this monopoly the State expects us not only to set the objectives, but the means by which these objectives can be reached . . . If dentistry is to catch up with the rest of the world around us, our first and most important objective must be to provide the dental manpower to meet the demands for dental service in the years ahead."

RECOMMENDATIONS

I believe that as a partial answer to this objective and here, I fear, I shall incur the rather marked enmity of many of my confreres, as well as many hygienists, three things should be done. Firstly, the services which dental hygienists are presently legally and academically competent to perform should be broadly expanded. Secondly, facilities for training should be augmented and created and in conjunction a much broader program of candidate recruitment should be pursued. Thirdly, I think we should take sex out of dental hygiene. I shall deal with this latter contention presently.

1. *Expanded scope of service*

In my opinion it is fundamentally and basically unsound for persons of superior

training routinely to be engaged in rendering services which can, just as effectively, be provided by personnel of lesser training — and that is just what we are doing in dentistry. We must develop and train auxiliary personnel to whom may be assigned, under the responsible control and supervision of the dentist, many of the time-consuming technical procedures which prevent the dentist extending his vital services to more patients and which would free him for his infinitely more important role in diagnosis, case assessment and treatment planning, the cutting or severing of any oral tissues, and the prescribing of drugs.

There appear to be two basic arguments employed in opposition to such a proposal. The first concerns itself that such activities derogate from the primary role of the hygienist as a worker in preventive dentistry. There may be some substance to that argument. However, a prominent dental administrator in the United States recently remarked that a study yet to be reported in the Survey of Dentistry reveals that less than 1/3 of the time of the dental hygienist in active practice is being devoted to prevention and of this one third the major portion is concentrated in adults. "The outlook of obtaining greatly increased preventive services," he concludes, "under the practice of dental hygiene as we know it in the United States really does not exist."

Surely we know many dentists who, while engaging almost exclusively in treatment services, find time to educate their patients in the application of preventive principles. One can, if he is sufficiently motivated, emphasize, as he is able during treatment procedures, the patient's participation in the dental health program rather than directing his remarks to his latest golf score or his particular competence at curling. I am sure the hygienist, too, could effectively employ considerable time in similar pursuits.

The second argument relates to an alleged lowering of standards or a second-class dentistry. This argument, I can in

no way support. On the contrary, I believe such a proposal would continue to elevate the standards of dental service.

The medical profession has proven that it has most certainly maintained and, I think, most physicians would agree, has improved its competence to render scientific medical services to the public by the addition of auxiliary arms of one kind or another. The introduction of pharmacists in the United Kingdom was opposed by many physicians who felt that only medical practitioners were sufficiently competent to roll a pill or prepare an ointment. Our present-day hospitals could barely serve the public at all if it were not for the services of the auxiliary personnel in these institutions.

Many members of our own profession were vehemently outspoken against the introduction of the independent dental laboratory. One has only to view some of the exhibits at this or any other convention to appreciate the high degree of technical excellence in laboratory procedures which can be achieved by many members of the craft. It is significant, too, at least as far as this country is concerned, that these technicians acquired this competence without benefit of any formal course of study.

To suggest that standards would decline if auxiliaries, acting under the responsible control and supervision of dentists, were permitted to perform many technical procedures from which, either by training or legislation, they are presently excluded defies the experience of modern society. I wonder, with Dean Fleming, "when dentistry is to catch up with the rest of the world around us."

2. *Intensified Recruitment*

To combat the obvious dearth of dental hygienists a much broader program of recruitment is required. Most dental organizations are cognizant of the problem and active programs have been undertaken by many groups to fill this apparent void.

3. *Male auxiliary personnel*

What, however, is to be said for regula-

tions which limit this field to one sex which, because of marriage and raising children, deprives the profession of approximately 50 percent of the personnel capable of performing the needed services? I wonder if we are permitting custom and tradition to militate against the adequate acquisition of auxiliary personnel to assist members of the profession to care for the needs of the public? I think we are.

Four arguments have been advanced against the utilization of male auxiliaries for such services and I agree that the designation 'Hygienist' may not be the best term to employ for the personnel to provide the proposed services. It is alleged that female employees, psychologically, are quite content and happy to work under authority whereas the male is not so inclined. Secondly it is contended that the male would be much more likely to operate beyond the scope of his legal authority or locate in areas independent of the supervision of a dentist thus creating problems in the enforcement of the Dentistry Acts. Thirdly, some have expressed concern that dentists possessing non-registrable qualifications would demand admittance to licensing examinations for dental hygiene and lastly it seems to be generally agreed that the female is prettier than the male. With this contention I am in most emphatic agreement although I hardly feel that is sufficient reason to reject the services of men.

The vast majority of Canadian males find it necessary to work under the authority of others and I see no significant argument in the first contention. As such personnel would, of necessity, be registered and would as well be required to maintain themselves in good standing on an annual basis, I feel the enforcement of regulations would be much more easily accomplished than it is at present with our illegal practitioners, especially in view of the fact that such personnel have so much more to lose. Requirements could continue to stipulate that such persons must be graduates of an approved school of dental hygiene and if the non-regis-

trable dentist qualifies himself by gaining admission to and being graduated from such an accredited course then I think we should welcome him to the field.

The problem of the provision of adequate numbers of auxiliaries is sufficiently serious that we should, at least, assure ourselves, beyond any reasonable doubt, that a continuance of the legal restriction of these services to women is amply justified.

Dentistry, to meet the needs and challenges of a rapidly expanding population and a people who are inexorably gaining year by year a greater appreciation of the benefits inherent in dental health, must, as one contribution to the solution of the manpower problem, do everything possible to create and augment facilities for training dental hygienists, greatly expand the recruitment program for both female and male candidates, and produce a legal and academic environment which will permit, under the continuing supervision and control of dentists a much broader scope

of clinical and technical services. Let's get on with the job!

RÉSUMÉ

Il y avait, le 5 juin 1960, 98 hygiénistes dentaires enregistrées au Canada. On croit que de ce nombre seulement 55 sont en service dans des cabinets particuliers. Un dentiste qui se propose de traiter plus de 500 patients par année ferait bien de songer à embaucher une hygiéniste dentaire. Une hygiéniste compétente peut fournir au dentiste chaque année 25 semaines supplémentaires de 35 heures consacrées aux phases les plus compliquées de l'exercice dentaire. Le seul endroit où les hygiénistes peuvent recevoir leur formation est à l'Université de Toronto, qui peut accueillir 50 jeunes filles par classe; mais le nombre des étudiantes est actuellement inférieur à ce niveau. Les Universités de Dalhousie et de Manitoba songent à mettre sur pied des cours en 1961. Un autre genre de cours pour des auxiliaires, hommes et femmes, doit commencer à l'Université d'Alberta en 1961. On recommande que le champ d'action des hygiénistes soit agrandi. On devrait augmenter les disponibilités pour la formation d'hygiénistes et établir un programme plus considérable de recrutement. Les hommes comme les femmes devraient être admis dans la profession d'hygiéniste dentaire.

230 St. George St.

"When we discuss the professional freedoms to which we are all dedicated, we must remember that they are not freedoms from responsibility, accountability and additional effort, but rather are the freedoms to assume more responsibility than the average person in order to make a greater contribution to the social, cultural and intellectual advancement of the family, the community and the nation. A profession which assumes these additional freedoms and does just a little more for society than seems necessary, and the dental society which does just a little more for its members than might seem necessary, will ensure that the true professional freedom of private practice with its truly professional dentist-patient relationship, will prevail no matter what social and economic changes evolve."

R. H. Friedrich, D.D.S.

EDITORIALS

People Behind the Service

Increased purchasing power, a growing awareness of the positive advantages of good dental health and, above all, population growth lead most qualified observers to predict a rising demand for dental care in Canada during the next two decades. How to meet this demand is an issue which, though basically a simple one, is of great potential importance to the future of dental practice. Most intimately identified with this issue are four important interests — those of the dentist, the dental assistant, the dental technician and the dental hygienist. An intelligent appreciation of existing resources is the only acceptable basis on which to plan for the future. A symposium on "Manpower in Dentistry" presented at the annual meeting of the Canadian Dental Association in September, 1960, furnishes a most penetrating analysis of the present capacity, the limitations and desirable future growth of dentists and of dental auxiliary personnel.

Dr. Ellis' observations relative to dentists and populations are highly significant. Canada's population of 17,814,000

already exceeds the Gordon Royal Commission estimate for 1960. The corresponding estimate of a population of 27,530,000 by 1980 may likewise be exceeded. Capacity output of new dentists from the six existing dental schools in Canada will fail to improve the present national dentist-population ratio. A ratio of one dentist to 2,500 population is suggested as a realistic objective for the next twenty-year period and Dr. Ellis concludes that this objective could be achieved if two or three moderate-sized new schools were started between 1968 and 1978. To help redress some of the more gross aspects of maldistribution of dentists and bring aid to more isolated communities it is suggested that a student bursary program with a stipulated return-of-service requirement be correlated with the recommended expansion of teaching facilities.

Dr. McCutcheon's observations relating to dental assistants indicate that less than 10 per cent of Canadian dentists are utilizing this type of auxiliary in the most productive manner. He stresses the need for more direct interest in the training, func-

tions and employment of dental assistants.

In the field of dental technology the most pressing need appears to lie in elevating the status of the dental technician and eliminating factors which might entice individuals to render services for which they are untrained. Helping the dental technician to achieve and maintain a recognized standard of training appears to be the most promising answer. Pointing to a relative lack of organization in the craft, Dr. Neilson strongly urges the Canadian Dental Association to help technicians establish a strong national organization with which the dental profession can collaborate in

the furtherance of matters of mutual interest and concern.

Dr. Dunn makes a strong case for increased training facilities and recruitment in relation to dental hygienists. Expanding the scope of the services to be rendered by dental hygienists and opening the ranks to men as well as women are the major recommendations in this area.

The members of the panel have thus identified and helped to clarify the central issues about which all of us have yet a great deal to learn. The need for more dental service is apparent. This symposium contributes knowledge as to how that need may be met.

Volume Twenty-Seven, 1961

The observant reader may have noted some alteration in the contents of this issue of the *Journal*. This slight departure from the previous pattern stems from a desire to devote more coverage to news of dentistry in Canada and abroad without incurring any substantial increase in the size and cost of the *Journal*.

The contents of the English section have been regrouped into eleven departments—Leading Articles, comprising original communications, review articles, clinical annotations, and the like; Case Reports; Abstracts; Editorials; Correspondence; Bureaux, Committees and Councils; Dentistry in the News, comprising such sub-departments as Canada and the Provinces,

International Items, Canadian Dental Schools, Royal Canadian Dental Corps, Public Health, Research and the like; Book Reviews; The Library; In Memoriam; and Announcements.

A corresponding adjustment has been effected in the contents strip of the front cover. As a result of these modifications it is hoped that readers of the *Journal* will be able to identify from the contents strip those items which interest them and then locate these rapidly within the body of the *Journal*.

Since many readers are not fully conversant in both national languages, it has been decided to re-introduce a former

practice of providing brief summaries of leading articles in the French or English languages. In this way it is hoped that readers will be encouraged to take a greater interest in technical and scien-

tific papers published in the two respective sections of the Journal.

It is hoped, through these changes, to make the Journal a more useful publication to the profession.

C.D.A. Retirement Savings Plan

For Canadian dentists, do-it-yourself pension planning is more important than ever before. This is because the Income Tax Act gives a self-employed individual certain tax benefits formerly enjoyed only by employees of organizations having a group retirement plan. Since 1957 the self-employed person can put ten per cent of his income, to a maximum of \$2,500 a year, into a registered retirement-savings plan and deduct the amount paid before calculating his income tax. The basic advantage of saving through a registered plan is that it provides a considerable measure of tax relief. The disadvantage is that the capital one accumulates in such a fund is essentially locked in, both before and after retirement. It can only be withdrawn through deregistration and subject to an immediate 25 per cent tax deduction from the individual's accumulated equity in the plan. Otherwise the money must be used in just one way — to buy an annuity.

The C.D.A. Retirement-Savings Plan is a trustees plan which offers a choice of safety through fixed-income securities such as bonds, of capital growth potential through common stock, or any desired

combination of these safety and growth features. The Royal Trust Company administers and invests the funds, furnishing periodic statements showing the status of individual investment accounts and the amounts deductible from income tax. At retirement age (age 71 or earlier) the trustee purchases an annuity with the entire proceeds from the individual's equity in the savings plan according to certain available options.

Whether to join the Retirement-Savings Plan and take advantage of the tax relief or elect to build up a pension fund privately, using a part of net income after taxes, depends on personal circumstances and goals. A person in the investment field with unlimited time to devote to the subject can possibly earn more with his money through prudent investment than could any approved plan. The busy professional man, on the other hand, will find it simpler to turn over to someone else the problems of managing his retirement fund. The C.D.A. Retirement-Savings Plan was established for just such a purpose. It deserves careful consideration from each member of the profession.

CANADIAN DENTAL ASSOCIATION RETIREMENT SAVINGS PLAN

Statement of Unit Valuations as of November 30th, 1960

GOVERNMENT BOND FUND

Investment at market value	\$115,022.44
Accrued income (interest)	502.05
Cash on deposit at interest	111.75
TOTAL	\$115,636.24
Less: Administration fee— $\frac{1}{8}$ of 1% of \$115,636.24	144.54
MARKET VALUE OF FUND	115,491.70
Units outstanding	10,996,425
UNIT VALUE OF FUND	\$ 10.502

CORPORATE BOND FUND

Investment at market value	\$203,583.45
Accrued income (interest)	975.98
Cash on deposit at interest	41.59
TOTAL	\$204,601.02
Less: Administration fee— $\frac{1}{8}$ of 1% of \$204,601.02	255.74
MARKET VALUE OF FUND	\$204,345.28
Units outstanding	18,482,818
UNIT VALUE OF FUND	\$ 11.055

COMMON STOCK FUND

Investment at market value	\$377,732.78
Accrued income (interest)	—
Cash on deposit at interest	(Dr) 468.74
TOTAL	\$377,264.04
Less: Administration fee— $\frac{1}{8}$ of 1% of \$377,264.04	471.58
MARKET VALUE OF FUND	\$376,792.46
Units outstanding	32,135,908
UNIT VALUE OF FUND	\$ 11.724

Trustee: The Royal Trust Company

Information about the C.D.A. Retirement Savings Plan is available from Mr. J. T. Staddon, 2249 Yonge St., Toronto 7, Ont. Telephone HU. 1-5731.

CORRESPONDENCE

CONTROL OF RADIATION HAZARDS

To the Editor

A large percentage of the dental profession is no doubt perturbed about new legislation, recently enacted in Western Canada, which confers the privilege of performing dental operations on persons other than graduate dentists. This situation has been brought about because we have not offered leadership which satisfied the public. The public is therefore attempting to solve the problem in its own way, through legislation. As a result the prestige of the profession suffers.

A similar situation is now in the offing in pending legislation (in Ontario) relating to dental radiology. As a profession we must not passively await enactment of such legislation. We should instead take immediate steps to make practical regulations governing our own profession. In this manner we will elevate ourselves in the eyes of the public instead of allowing ourselves to be further embarrassed by being told what to do.

I respectfully submit that this is vitally important. We should initially begin with minimum regulations so as to encourage the highest degree of cooperation from the profession. Certain fundamental concepts have been definitely established. First, all x-radiation is dangerous to a normal human being. Maximum permissible doses are being continually and drastically reduced. Second, no definite safe threshold is known. It is therefore our undeniable responsibility to reduce the hazard to an absolute minimum. Hundreds of cases of serious injury have been reported. I have personally suffered radiation injury to the extent of requiring major surgical treatment, and was unable to practise my profession for years. As you no doubt know, I have dedicated myself to the task of educating other members of the profession so that they may not suffer as I have done. I have given clinics and published papers on this vital subject.

The initial problem, as I see it, is to have

all members of the dental profession, using x-ray equipment, use their *present* equipment intelligently. I submit the following as suggested minimum requirements which might be incorporated into the by-laws (under various Dental Acts):

1. Use of filters
2. Use of collimators
3. Use of the fastest practical film, such as Ultra-Speed or Lightning-Fast
4. Substitution of a *protective device* in place of the conventional plastic cone which permits too much secondary and scattered radiation.

Such a protective device was recently displayed by me at the Toronto Academy of Dentistry Winter Clinic in November, 1960 and will be displayed again in Chicago in February, 1961. This device will control at least 80 per cent of the radiation emanating from an x-ray machine; it is at least twice as effective as the plastic cone with filters and collimators; and it produces superior pictures because of less fog and scatter.

I am firmly convinced that regulations in this vein should now be enacted (under our by-laws) and that these will satisfy government departments as well as the public. Lead-lined rooms (as possibly envisaged in pending government regulations) protect *only* persons in adjacent rooms, whereas the foregoing recommendations will protect the operator, the patient as well as other persons in the vicinity by methods which are less costly and certainly not prohibitive.

I believe that more radiographs should be taken, not less—but only after the most practical precautionary measures have been instituted. Minimizing the dangers instead of facing the facts will not solve but aggravate the problem. Let us act now before it is too late.

Charles Okun, D.D.S.,
201 Ava Road,
Toronto 10, Ontario.

Editor's Note:

The Royal College of Dental Surgeons of Ontario has been and is collaborating with the Division of Industrial Hygiene of the Ontario Department of Health in the consideration of possible future regulations (pursuant to the Public Health Act) which might prescribe construction standards, relative to the installation and operation of dental x-ray equipment, for new buildings intended to accommodate dental offices. The protective device referred to in the foregoing letter has been developed by Dr. Okun.

myself. We feel that we have made many friends and our stay with you will always remain a happy memory.

We shall look forward to renewing those friendships.

*George Richards-Smith, L.D.S.,
Rosslyn,
Woking, England.*

PROTECTION AGAINST RADIATION HAZARDS

To the Editor

Since writing to you, I have had the device, to which I referred in my previous letter, tested by leading dental x-ray equipment manufacturers. The results indicate that this device installed on the latest machine with two lead collimators and 2.5 mm. aluminum filtration is 400 per cent safer than the conventional plastic cone using similar collimators and filtration. The position of the operator was constant at a recommended practical optimum location. This is an appreciable contribution to the control of radiation hazards.

*Charles Okun, D.D.S.,
201 Ava Road,
Toronto 10, Ontario.*

LETTER FROM THE B.D.A. DELEGATE

To the Editor

May I beg space in your Journal to say to you, your Board of Governors and all the members who attended your recent Congress in Ottawa, a sincere thank you for the very warm reception and friendship you gave to me as the delegate of the British Dental Association. It is obvious that a happy relationship exists between our two associations. Long may it continue.

Also, may I say how much we appreciate the hospitality you all gave to my wife and

IMPORTANT REQUEST TO CANADIAN DENTISTS

The Division of Dental Research, University of Toronto urgently requires exfoliated or extracted primary teeth for radioactive fallout and other studies. Dentists are invited to assist by collecting such teeth. The teeth from each child should be sealed in a separate envelope bearing (1) date of birth, (2) place of birth, and (3) residence of the mother during pregnancy. Individual envelopes may be inserted into a larger envelope or container and forwarded to Dr. A. M. Hunt at the Division of Dental Research, University of Toronto, from time to time.

BUREAUX, COMMITTEES AND COUNCILS

National Certification for Dental Specialists

Committee on Specialists and Specialization

In view of the growing number of young dental graduates who seek advanced training in various specialty fields and the variance in qualifications required for specialty certification from one province to another, the Committee has begun to explore the possibility of establishing a national dental specialty certification board in Canada. The object of such a board would be to encourage a measure of uniformity in the training and qualifications relating to various specialty fields, to establish regulations governing the specialties and to give recognition to properly qualified specialists.

It is the view of the Committee that federal legislation be ultimately sought to permit the establishment of a Royal College of Dentists, that its members should be designated as Fellows and be awarded the degree of Fellow of the Royal College of Dentists, F.R.C.D. (Can.). Relationship between the proposed Royal College and the National Dental Examining Board, the Canadian Dental Association, provincial licensing boards,

and existing Canadian specialist organizations remains the subject of further study.

The Committee favours an arrangement that permits specialist organizations to assist in establishing a Royal College and in establishing requirements for membership. The Committee, further, favours representation from specialist organizations on the Board of the proposed Royal College and the appointment from the specialist organizations of examiners in the various specialties.

In the view of the Committee, the proposed Royal College would in no way interfere with the granting of specialist certificates by provincial licensing boards. The Royal College would establish the requirements for the Fellowship at a level which will meet the requirements for specialty certification in all provinces. Provincial licensing boards would, thereby, retain the prerogative of licensing specialists who are not Fellows of the Royal College. It is hoped, however, that Fellows of the Royal College will be so recognized as to be licensed as specialists in any province without difficulty.

DENTISTRY IN THE NEWS

Canada and the Provinces

PRESIDENTIAL TOUR TO EASTERN CANADA

The annual visit of the president and secretary of the Canadian Dental Association to eastern centres commenced on November 24, 1960 at the Winter Clinic of the Academy of Dentistry, Toronto.

Dr. Whyte and Dr. Gullett left Toronto immediately thereafter for a meeting in Halifax, November 25. Charlottetown was visited on November 28, Quebec City on November 29, Saint John on November 30 and St. John's, Newfoundland, December 2-3.

CDA COMMITTEES CHANGE

As part of the revision of Canadian Dental Association by-laws at the 1960 annual meeting, names of several committees have been changed. Standing committees have become councils and special committees have become committees as follows:

Eight Councils: Constitution and By-laws, Education, Ethics, Journalism (formerly Publications), Legislation, Public Health, Research, and Executive Council.

Ten Committees: Auxiliary Services, Convention, Headquarters Property, Dental Services (formerly Health Insurance Studies), Hospital Services, Necrology, Nomenclature, Nominations, Specialists and Specialization, War Memorial Awards.

To assure an influx of new members with new ideas, and yet to assure continuity of action, election to councils and committees will be for a three-year term, renewable once, with one-third of the members of each group retiring each year. This has been the practice with several committees but now is the rule. Council and committee members are elected by the Board of Governors at the annual meeting.

CDA COUNCIL AND COMMITTEE ELECTIONS

Several changes in the personnel of Canadian Dental Association councils and committees have become effective, following action at the 1960 annual meeting.

The Executive Council now consists of the president, J. P. Whyte of Swift Current, Saskatchewan; president-elect, W. Miller of Vancouver; past-president, W. G. McIntosh of Toronto; Remy Langlois of Quebec, James Zimmerman of Calgary, M. V. J. Keenan of Sudbury, and P. S. Christie of Halifax. G. M. Dewis of Halifax was named treasurer.

Appointments were confirmed of F. A. Fernet of Saskatoon as chairman of the 1961 convention committee and L. F. Marshall of Vancouver as chairman of the 1962 convention committee.

F. McCombie of Victoria, B.C. is the new chairman of the Council on Public Health, replacing H. K. Brown of Ottawa. J. D. Purves of Toronto becomes chairman of the Council on Journalism replacing F. Martin of Toronto. A. H. Crowson of Ottawa is chairman of the Council on Legislation replacing A. W. Grace of Ottawa. E. R. Bilkey of Toronto is chairman of the Library Trustees.

RECRUITMENT COMMITTEE ESTABLISHED

Following approval at the recent annual meeting, a national recruitment committee has been formed by the Canadian Dental Association. The new committee will function as a sub-committee of the Council on Education.

Named as chairman is W. J. Dunn of Toronto, a former editor of the Journal of the Canadian Dental Association and now Registrar-Secretary of the Royal College of Dental Surgeons of Ontario.



The Board of Governors, Canadian Dental Association, in session in the federal Parliament Buildings, Ottawa, September 1960.

Members of the committee are J. B. O'Brien of Saint John, N.B. a member of the Council on Education; J. M. Chamard of Montreal; R. G. Ellis, Dean of the Faculty of Dentistry, University of Toronto; and R. R. McIntyre of Calgary.

The first meeting of the new committee was held at the association headquarters in Toronto, January 5 to 6. The original resolution calling for appointment of the recruitment committee urged all provinces to form similar groups. Some provinces have done so and have active recruitment programs in operation.

In his report to the Board of Governors, past president McIntosh said "the recruitment of high calibre students is one of the profession's greatest problems". The resolution authorizing the national committee stated that "Dental personnel are not being graduated in sufficient numbers to meet the need or demand of a rapidly increasing population." "The recruitment of dental personnel is primarily the responsibility of the dental profession", it was stated in the resolution.

TELEVISION FILMLETS DISTRIBUTED

Copies of a new series of three sixty-second television spot announcements have been distributed to television stations across Canada. Produced for the Canadian Dental Associa-

tion by Crawley Films Limited, subjects of the filmlets include research in dentistry, the preventive role of the dentist, and a dental public health message. Television stations have been encouraged to use these announcements as public service material.

Although this is the first project of its kind by the Canadian Dental Association, the Canadian Medical Association and others have been using television filmlets successfully for some time. The project, initiated by the public relations committee and followed through by the Bureau of Public Information, was approved by the Board of Governors and supported by an allocation of \$5,000.

ANNUAL MEETING PRODUCES PUBLICITY

Following the Ottawa meeting in September, about 200 clippings were received at Canadian Dental Association headquarters from newspapers large and small all across Canada. News of essayists, demonstrations and exhibits drew greatest coverage. Next in line was coverage given to Prime Minister Diefenbaker's luncheon address (including a mention in *Time* magazine). Equal coverage was given to reports of the panel discussion on Manpower in Canadian Dentistry. Many other stories were printed about public health and research activities, election of the

new president, honorary member and social events. Good radio and television coverage of both Board of Governors' meeting and convention was achieved.

As Annual Meetings of the Association move across the country, one of the by-products is the good publicity for dentistry. This publicity is centred chiefly in the press, radio and television of the area near the meeting location but news clippings received by the Bureau of Public Information indicate broad national coverage as well.

SECOND SECRETARIES CONFERENCE HELD

The second conference of secretaries of provincial dental organizations was held at the association headquarters, January 9 to 10, 1961.

The conference permitted face-to-face discussion and exchange of ideas on a wide range of subjects including licensing procedures, public relations, recruitment and specialty certification. All provincial corporate members of the C.D.A. and some of the voluntary associations were represented at the meeting.

DR. SIMMONS HEADS ORAL SURGEONS

At a recent business meeting in Ottawa, the Canadian Society of Oral Surgeons elected Dr. Hamilton E. Simmons president for the coming year. Following graduation in dentistry from the University of Oregon in 1929, Dr. Simmons entered practice in Vancouver, B.C. During World War II, Dr. Simmons took special courses at Cambridge and East Grinstead Hospitals in England and served throughout the Normandy Campaign in conjunction with a British maxillo-facial unit attached to Canadian Field Hospitals. Returning to Vancouver at the end of the war Dr. Simmons joined the staff of Shaughnessy Hospital, Department of Veterans' Affairs, as exodontist and a member of the maxillo-facial team.

Dr. Simmons is a clinician and the author of several scientific articles which have been published abroad as far afield as Pakistan. He is a Fellow of the International College of Dentists. In his capacity as president, Dr. Simmons is actively arranging the coming scientific meeting of the Society to be held in Saskatoon, preceding the Canadian Dental



*Dr. H. E. Simmons, President, Canadian Society
of Oral Surgeons.*

Association Convention in June 1961. It is expected that Dr. Lyall Bishop, president-elect of the American Society of Oral Surgeons and Dr. J. J. Johnson, past-president of the Canadian Society, will be the chief essayists.

COUNCIL ON PUBLIC HEALTH TO MEET AT HEADQUARTERS

Following approval at the last annual meeting of the Canadian Dental Association, the Council on Public Health will hold its first meeting at C.D.A. Headquarters in Toronto, January 25 and 26.

Scheduled for review at this time are the Council's terms of reference. Subjects for discussion will include the Instruction of Dentists in Accepted Dental Health Knowledge; the Instruction of Students, Nurses and other Health Workers in Dental Health; the Instruction of Lay Groups in Dental Health (including consideration of a National Dental Health Day or Week); Preparation of Lecture Material, Slides and Films for use by

Dentists; Cooperation with Provincial Dental Boards; Preparation of Teaching Aids for the Public; Planning and Execution of Dental Health Surveys; and Correlation of Activities of Provincial Dental Public Health Committee in Dental Health Projects.

Consideration may also be given to dental public health research in Canada and to training, qualifications, salaries and terms of employment for dentists engaged in public health or institutional dental programs.

In addition to Council members F. McCombie (Chairman), Marjorie Jackson, C. A. E. McCabe, B. J. O'Meara and A. Schwartz, federal and provincial governmental dental public health representatives and several other persons have been invited to attend the meeting.

ALBERTA

Edmonton and District Dental Society — The society held its annual Ladies' Night on October 21, 1960 at the MacDonald Hotel. Dr. R. Mullen is to be congratulated for the excellent evening which was attended by about seventy couples.

Guests of honour were Dr. J. Donavon Ross, provincial Minister of Health; Dr. Hanson of the College of Physicians and Surgeons; Mr. K. Crockett, of the Law Society, and Dr. H. R. MacLean, dean of the Faculty of Dentistry, University of Alberta.

The regular monthly meeting was held on November 1, 1960. The guest speakers were Dr. Fraser and Dr. Callahan from the University of Alberta Hospital. Their topic, "Open Heart Surgery," was illustrated by films taken from the inside of a beating heart.

Calgary and District Dental Society — The clinical sessions for 1960-61 started in October with Dr. Ralph Phillips of the University of Indiana as guest clinician for an afternoon and evening. Dr. Phillips spoke on "Dental Cements and Amalgam Failures" in the afternoon and continued in the evening with "Corrosion of Amalgam" and "Evaluation of Rubber Base Impression Materials," outlining various techniques for their use. Dr. Phillips gave an excellent presentation which was much appreciated by the audience.

On November 3, Dr. George Gibb, professor of Restorative Dentistry at the University of Alberta, gave a very interesting evening lecture on "Common Errors in Bridge Construction and How to Overcome Them."

The society is at present conducting a voluntary survey of all grade 1, 2 and 3 school children in Calgary which should be

completed by early spring. Dr. J. A. Duncan is the co-ordinator of this project.

Since September 1, 1960, the following new practitioners have been welcomed to Calgary—Drs. Capogreco, Chew, Graham, Anderson and Haws.

Canadian Society of Dentistry for Children—Alberta Chapter — The Alberta Chapter held a meeting at Red Deer, Alberta on November 7, 1960. Drs. Robert Morrow and James Condon of Spokane, Washington were guest clinicians. A useful and enlightening program was presented.

Officers for the 1961 executive are Dr. B. Kuzyk, president and Dr. R. S. Margolis, secretary-treasurer.

Dental Auxiliaries in Alberta — A recent article in the Canadian Journal of Public Health (Vol. 51 — No. 11 — November 1960) by Dr. A. Somerville, Deputy Minister, Alberta Department of Health, amplifies the circumstances connected with the proposed plan to train and employ dental auxiliaries in that province. Under the Dental Auxiliaries Act, 1960 a school for the training of dental auxiliaries will be established "by agreement between the Minister of Health and the University of Alberta." September 1961 is the target date for the commencement of the new training course. "Regulations regarding this school may be passed in relation to the admission requirements for trainees, the courses to be taken, the practical experience to be provided and the fees to be charged for the course."

The Act also authorizes the establishment of an advisory committee consisting of the Director of Dental Health Services (Alberta) as chairman, a representative of the Alberta Dental Association and three other members, one of whom must be a member of the General Faculty Council of the University of Alberta.

"A trainee may perform the dental services for which he has been trained notwithstanding anything in the Dental Association Act. While working in the field, he must do so under the direction of a dentist, although not necessarily in the presence of a dentist. The dental auxiliary may only work when employed directly or indirectly by a local health authority or by the University of Alberta. Private practice is prohibited. The dental auxiliaries may only be employed by those local authorities which are designated by regulation." The initial intent is to make this service available only in areas which have little or no other dental service. As dental auxiliaries increase in number they will presumably be permitted to work in city

dental services and perhaps even with private dental practitioners.

BRITISH COLUMBIA

Convention in Trail—The semi-annual meeting of the Kootenay Dental Society was held in Trail on Saturday, October 15. The presiding officer was Dr. T. H. Walhovd of Creston and Dr. M. G. Martin acted as secretary. Attending dentists were from Creston, Nelson, Trail, Castlegar, Grand Forks and Rossland.

The clinician was Dr. T. J. Hackie of Kelowna whose subject was "Interceptive Orthodontics for the General Practitioner."

A report was given by Dr. W. N. Fraser on matters before the College of Dental Surgeons of British Columbia, especially the new technician legislation and certification of specialists. Resolutions on these matters were passed and forwarded to the College.

It was decided that the spring meeting would be deferred until the British Columbia Dental Association convention in May, 1961 at Kelowna, and to make a special attempt to have as many members as possible in attendance.

The meeting concluded with a banquet and social evening in the Crown Point Hotel.

Vancouver Society's Post-Payment Plan — The Vancouver and District Dental Society has completed arrangements with the Canadian Bank of Commerce for a dental budget plan for all the members in good standing of the society.

A pilot plan comprising fifty members which has been in effect for eighteen months proved so attractive that one or two dentists outside the Vancouver area joined the Vancouver organization to enable them to participate.

The patient simply signs an application form which the dentist sends to the bank. If credit is approved the bank pays the dentist the full amount (when treatment is completed) and the patient repays the bank in monthly instalments at any of its branches. The only persons excluded are minors and those over 69 years of age.

The new agreement includes these improvements over the pilot plan:

1. All members of the society in good standing are eligible to participate after registering and receiving instructions in the use of the plan.

2. The withholding amount has been reduced from 10 percent to 5 percent on each loan.

3. The signature of the dentist as a guarantor has been eliminated.

4. The multiplicity of forms previously required has been reduced to one form.

A meeting was held on September 28 when 135 dentists and assistants were briefed. In charge of the budget plan is Dr. S. Margolese who states that dentists who missed the instructional meeting will have to wait until there are sufficient new applicants to warrant another meeting.

Upper Island Dental Society — There were sixteen members who attended the meeting on November 9 in Qualicum. Welcome guests were Dr. Clay Hallman and Dr. Ross Upton who gave news of the College of Dental Surgeons of British Columbia and of British Columbia Dental Association activities.

Dr. F. Brunton, who is now regional dental consultant in Nanaimo, showed a film on radiation hazards and spoke of the proposed plan to monitor dental offices.

Interested members of the society have received material concerning the C.D.S.P.I. post-payment plan and at present are entering the scheme on an individual basis.

MANITOBA

Health Care for Manitoba Needy — Manitoba announced in July 1960 a comprehensive health plan to cover many of its needy citizens. The plan will operate with the support and co-operation of the medical and dental professions and other groups involved.

Essentially the cost is borne jointly out of the province's general revenues and by the professions and other groups rendering the services. Elderly citizens who are eligible for supplementary pension allowances will receive cards entitling them to services under the plan. Recipients of social allowances and children who are wards of the province will also receive cards.

Card holders will be entitled to receive necessary home and office calls of the physician of their choice for which the physicians will receive payment by Manitoba Health Service, Manitoba's physician-sponsored prepaid medical plan. The premiums will be paid by the Manitoba Government. Physicians will provide medical and surgical care in hospitals at no charge either to the patient or the government. Essential dental care will be provided on a prepaid basis financed by the government but operated by the dentists. Optical services, including eye glasses, will be provided. Essential drugs will also be available under the plan.

The really interesting point about the Manitoba plan is that it is based upon a fundamentally different philosophy from that adopted by Manitoba's sister province, Saskatchewan. Manitoba confines her atten-

tion to her needy citizens and provides them with necessary medical care, with the co-operation, financial and otherwise, of the professions and other suppliers of goods and services involved. Saskatchewan has promised medical care to all her citizens, needy or not, as a matter of right.

Can. Act. Bull.
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NOVA SCOTIA

C.D.A. President and Secretary Visit Nova Scotia—The Nova Scotia Dental Association was privileged to have the president, Dr. James Whyte and the Secretary, Dr. D. W. Gullett of the Canadian Dental Association speak before the provincial association at a dinner meeting on November 24, 1960. Previous to the dinner which was well attended, Dr. Whyte was interviewed on C.B.C. television. The dinner meeting was under the chairmanship of Dr. T. Rogers, vice-president of the association, in the absence of Dr. W. MacNeil who is recuperating from a heart attack. Stressing the trend toward increased social security Dr. Whyte pointed to the demand from government and from other groups for more extensive dental care and the increasing load which this places on the profession. The main difficulty in providing more adequate dental care stems from a shortage of dentists. Dr. Whyte explained that the present national ratio of one dentist to 3,108 population constitutes about one third of the required number of dentists. He considered the present annual graduation rate of 309 new dentists per year as insufficient to meet the needs occasioned by death, retirement and population growth. Dr. Whyte also addressed the third and fourth year dental students at Dalhousie University.

Dr. Gullett stressed the important role of the individual dentist in relation to recruitment of potential dental students and expanded use of dental auxiliary personnel such as dental hygienists. Calling for increased financial aid from governments for the establishment of more bursaries, scholarships and a long-range plan of building new dental schools, Dr. Gullett invited the participation of every active dentist in the implementation of the program of the Canadian Dental Association.

New Associate Editor Appointed.—Dr. J. P. McGuigan of Halifax has been appointed the new associate provincial editor to the *Journal of the Canadian Dental Association* from Nova Scotia. Dr. McGuigan is professor and

head of the Department of Paedodontics, Dalhousie University, Halifax. He is also chairman of the Council on Ethics of the Canadian Dental Association.

Cape Breton Island Dental Society.—A meeting of the Society was held on October 24 at the City Hospital, Sydney. The business meeting concerned correspondence on relations between dentists and dental technicians. Mr. N. MacIntyre, LL.B., the guest speaker presented an informative address on dental jurisprudence. Dr. P. Simon addressed the Society in the field of crown and bridge prosthesis.

Dr. G. R. McKay Dental Clinic.—Of interest to the dental profession should be the Dr. Gordon Robert McKay Memorial Hospital (Dental Clinic), which was originally opened in Shelburne on September 26, 1951, and is unique in Canada.

This dental clinic was made possible by the generous bequest of the late Dr. and Mrs. G. R. McKay. Dr. McKay was born in Ohio, Shelburne County and studied and practised in Boston, spending his summers in Shelburne. The McKays left funds to establish a memorial dental clinic, administered by a board of trustees. The spacious McKay residence and grounds were at the disposal of the board. One wing of the residence has been converted into a dental office, consisting of two operating rooms, dark room, laboratory, business office and waiting room.

The resident dentist is employed on an hourly basis up to six hours a day on school days. The policy of the clinic is to provide dental care for the children of Shelburne County who do not receive regular dental care. Preschool, grade 1, 2, and 3 children are eligible. Grade 4 children have been treated since 1959. Each community makes arrangements for transportation with an adult responsible for discipline. Dental education, prophylaxis, extractions, and amalgam and cement restoration are done. No general anaesthetics are given; no bridge work or prosthetics are done.

Dental education is carried out in the office, both for the parents and the children who will have dental treatment. This in many cases is more important than the actual treatment. Preventive dentistry is a problem in this area, and many parents lack basic dental and nutritional education. Dr. Clayton Pugh is the resident dentist presently in charge of the clinic. An invitation is extended to any dentist to visit the Dr. Gordon Robert McKay Memorial Hospital.



Photo: The Oshawa Times.

Present at the recent testimonial dinner for Dr. W. J. Langmaid of Oshawa, Ontario were Dr. S. J. Phillips, Dr. John Phillips and Dr. W. J. Dunn. Dr. Langmaid as guest of honour is the second person from the left.

ONTARIO

Testimonial Dinner in Honour of Dr. W. J. Langmaid.—Approximately 50 dentists, including members of the Board of Directors of the Royal College of Dental Surgeons of Ontario, the Canadian Dental Association, the Ontario Dental Association, the Durham-Ontario Dental Society, as well as the dean and senior staff members from the Faculty of Dentistry, University of Toronto, gathered on Tuesday, November 22, 1960 at the Flying Dutchman Motel, Bowmanville for a testimonial dinner in honour of Dr. Wesley J. Langmaid. A prominent Oshawa, Ontario dentist, Dr. Langmaid is well known for his life-long services to his community, his patients and to the profession. He has held office in the Durham-Ontario Dental Society, the Toronto Academy of Dentistry, the Ontario Dental Association, and the University

of Toronto Dental Alumni Association. As chairman of the Property Committee of the Royal College of Dental Surgeons of Ontario in 1953, he supervised the acquisition, remodelling and furnishing of the College's property at 230 St. George Street in Toronto. Dr. Langmaid was appointed to the Board of Governors of the Canadian Dental Association in 1955. In 1957 he was elected to the executive and in 1958 he became president-elect of the Canadian Dental Association. Unfortunately, he was unable to assume the presidency for 1959-60 due to ill health. Dr. Langmaid continues as a director for District 2 of the Royal College of Dental Surgeons of Ontario.

The dinner was tendered by Dr. Langmaid's friends and associates as a symbol of their affection and high regard for this distinguished dentist and citizen.

QUEBEC

Montreal Dental Club—Mount Royal Dental Society—La Société Dentaire de Montréal.—The first combined meeting of the dental societies of Montreal for the 1960-61 season was held on the afternoon and evening of November 21, 1960 at the Windsor Hotel.

The afternoon session began at 3.00 p.m. Dr. J. Belanger, president of the Société Dentaire de Montréal, welcomed the members and introduced the guest speaker, Dr. W. Berger, lecturer in Practice Administration, University of Indiana School of Dentistry. Dr. Berger spoke on "Practice Management" and in his afternoon lecture he discussed "New Trends in Time and Motion Study". Dr. Berger described the optimum condition as maximum operative efficiency with a minimum of overhead cost. This goal may be approached by the use of the principles of time and motion economy. Every phase of office procedure should be studied under the principles of elimination, combination and rearrangement, Dr. Berger added. The speaker used motion pictures to illustrate his lecture.

Following the afternoon lecture, Dr. Evelyn K. Berger, wife of the guest clinician, presented a table clinic on various office forms.

Dr. P. J. Gitnick, president of the Mount Royal Dental Society presided at the dinner. Following the dinner, Dr. Robert LeBlanc, Registrar of the College of Dental Surgeons of the Province of Quebec, discussed "Dentistry in the Next Decade in the Province of Quebec." Dr. LeBlanc outlined the role of the College of Dental Surgeons, dental schools, individual dentists and auxiliary personnel, including hygienists and technicians, in extending dental care to more people.

Dr. Berger's evening lecture was entitled "Case Presentation of the Five Phases of Patient Management." These five phases, which Dr. Berger considers the basic principles of practice building, are classification of patients, adequate examination, diagnosis, case presentation and concluding definite financial arrangements. The use of these basic principles was enlarged upon, and numerous questions arising from the audience were answered. At the close of the evening session, Dr. Howard Oliver, president of the Montreal Dental Club, thanked Dr. and Mrs. Berger for their very stimulating presentation.

Mount Royal Dental Society—The first general meeting of the Mount Royal Dental Society (Montreal) for the year 1960-61 was held as an all-day clinic on Friday, September 16, 1960. The guest clinician was Dr. R. S. Stein of Boston, Massachusetts, who

was introduced to the gathering by the vice-president of the Society, Dr. G. Baer.

Dr. Stein's topic for the morning session "Newer Concepts and Techniques for Crown and Bridge Prosthodontics" emphasized the thinking that had evolved from accepted concepts and techniques. The clinician showed a motion picture which demonstrated a step-by-step procedure for constructing a simple three-unit fixed bridge, using veneer crowns as retainers. Also demonstrated was the fabrication of a two-surface inlay on a tooth adjacent to the anterior retainer.

The lecturer intimated that he favours the slower speeds in preparing teeth. He uses disks and heatless stones generously, as well as wet or dry sandpaper disks, and produces a smooth confluent finish with long tapered points at the contra angle. When gingival tissue interferes it is trimmed away.

He demonstrated the copper band impression technique using graphite wax, and emphasized the importance of proper festooning, following which the complete laboratory technique was reviewed.

The speaker brought to the attention of the audience his present method for preparing chamfers for crown preparations using a round diamond stone in an air-turbine or a Paige-Chayes handpiece.

With a separate series of transparencies he reviewed the technique for preparing inlays and taking impressions with rubber-base material.

The double-mix technique and its ramifications were demonstrated. Also advocated were the shoed-cusp inlay preparation and the Shooshan technique for pin inlays, whereby the pin-holes are made with very fine drills, so fine that one can prepare six in one tooth if necessary. This technique has been described in *Dental Clinics of North America* and in the *Journal of Prosthetic Dentistry*.

At the afternoon session, Dr. Stein's topic "Prosthodontics in Relation to Gingival Health" was illustrated with numerous "before" and "after" transparencies. He emphasized the use of removable orthodontic appliances and elastic bands for minor tooth movement.

In assessing the success of each case Dr. Stein utilizes the appearance of the soft tissues as a principal criterion.

The second general meeting of the Mount Royal Dental Society, held on Tuesday, October 11, 1960, featured as guest speaker Dr. M. A. Rogers, director of the Dental Clinic of the Montreal General Hospital. Dr. Rogers' topic was "Local Anaesthesia".

Dr. Rogers stated, at the outset, that there is an apparent lack of interest in anaesthesia due to an attitude of complacency. We are fortunate today in having at our disposal

such excellent syringes, needles, and solutions that a great deal is taken for granted.

After presenting a short history Dr. Rogers embarked on a discussion of the drugs themselves. Cocaine, the original anaesthetic agent, was potent, but was also habit-forming and toxic. Procaine was later synthesized and it is now used as a standard by which other anaesthetic agents are assessed. It is almost as potent as cocaine, but is six times less toxic.

Today we have a very wide range of anaesthetic agents of which the foremost in importance are Xylocaine, Unacaine, Ravocaine, and Carbocaine. Since these four drugs are chemically unrelated they are useful in coping with patients who develop sensitivities to certain drugs.

The speaker then listed the seven requirements of an anaesthetic solution. It must be 1) effective, 2) sterile, 3) a vasoconstrictor, 4) tissue-tolerable, 5) non-toxic, 6) isotonic and 7) it must permit a reversible reaction.

Montreal Chapter, Alpha Omega Fraternity.—The scientific program of the 1960-61 season commenced with a series of clinical demonstrations on Tuesday evening, October 25, 1960 at the Decelles Professional Building. Dr. D. Solomon demonstrated "Thiokol Rubber Impressions in Crown and Bridge Prosthesis and Fabrication of Temporary Acrylic Splints." Dr. H. Skurnik's subject was "Periodontal Surgery." Dr. H. Hops demonstrated "Obliteration of the Root Canal Before Resection"; while Dr. R. Wiener selected "Immediate Resection" as his subject. These evening clinical demonstrations, which permit the members to observe the application of various techniques and materials with actual patients, have proved to be extremely popular and are well attended.

An afternoon and evening meeting on November 4, 1960 was addressed by Dr. L. Mandel of New York on the subject of "Surgical Incisions, Preparation of the Mouth for Prosthesis, and Cysts of the Oral Cavity." Once again there was an excellent attendance.

The annual seminar is scheduled for Friday, January 13, 1961 in the Amphitheatre of the Montreal General Hospital, when Dr. D. J. Baraban and Dr. D. Kohn of Boston will be the speakers on the subject of "Periodontal Prosthesis." As in the past, this meeting is open to all dentists in Montreal and surrounding districts and everyone is cordially invited.

International Items

FEDERATION DENTAIRE INTERNATIONALE

XIII International Dental Congress, Cologne, 1962—Cologne, West Germany, is to be the host city for the 13th International Dental Congress of the Fédération Dentaire Internationale, July 7-14, 1962. These quinquennial congresses, sponsored by the F.D.I. are held in different centres around the world. Germany's invitation to hold the 1962 congress in Cologne was accepted at the last congress held in Rome, 1957.

Among those entitled to attend an international congress are all legally licensed dental practitioners holding membership in the national dental association of their native country, physicians and scientific research workers, dental students, and relatives or friends of the aforementioned groups.

Preparations are well under way. President of the Organizing Committee and of the Congress is Dr. Erich Müller of Hamburg, vice-president of the F.D.I. and president of the German Dental Association. Dr. Rolf Braun, director of the German Dental Association, who is also a member of the Council of the F.D.I. is acting as secretary-general of the Organizing Committee.

The opening ceremonies of the Congress are scheduled for 10 a.m., July 7, 1962 in the Congress Hall of the Cologne Exhibition Grounds. Every facility is available for arranging the Congress, particularly in respect to the scientific program, a comprehensive dental trade and supply exhibition and the meetings of the F.D.I. General Assembly, Council and Commissions.

The scientific sessions begin on July 9 and extend for five days. Each day is devoted to a particular area of dental interest. The first day is devoted to basic caries research and the succeeding days to operative dentistry, prosthodontics, oral surgery and orthodontics. Introductory papers will be presented by invited authors of international repute.

A comprehensive social program, including a number of receptions, a concert of organ music in Cologne Cathedral, a ball, the traditional banquet and various other functions for the ladies will provide the necessary relaxation and entertainment.

An anticipated attendance of between 8,000 and 10,000 delegates is expected. Those wishing to attend the congress are advised to seek early registration. Enquiries should be addressed to the Secretary-General, Universitätsstrasse 73, Köln-Lindenthal, Germany. Dentists who desire to present short

communications, demonstrations or motion pictures are invited to communicate with the Secretary-General of the Organizing Committee, Universitätsstrasse 73, Köln-Lindenthal, Germany.

FRANCE

Pierre Fauchard Bicentennial, 1961 — The two-hundredth anniversary of the death of Pierre Fauchard will be observed by the dental profession in France following the meeting in Paris of the American Dental Society of Europe, June 24-30, 1961. The program includes the dedication of a monument at the Château de Grand-Mesnil at Orsay, near Paris, where Fauchard lived; a special convocation at the Sorbonne to be attended by members of the French government; issue of special reprints of the book "Le Chirurgien-Dentiste" originally written by Pierre Fauchard; and the possible issue of a commemorative postage stamp by the Ministry of Posts, Telephones and Telegraphs.

Further information may be obtained from M. Max Filderman, Secrétaire général du Comité national du Bicentenaire de Fauchard, 67 rue de Tocqueville, Paris 17e, France.

UNITED STATES

Summary Survey Copies Available.—Copies of the summary report of the Commission on the Survey of Dentistry in the United States are available to the profession. The copies are \$1 apiece and may be requested from the American Council on Education, 1785 Massachusetts Ave., Washington 6, D.C.

A.D.A. Secretary Condemns Term "Socialization".—A leader in American dentistry has urged his colleagues in the health professions to drop use of the word "socialization" as a catch phrase. Dr. Harold Hillenbrand, secretary of the American Dental Association, branded as "unfortunate" the tendency to use the word to dismiss health proposals without giving them full and fair hearing.

Speaking on November 21, 1960 at the 19th annual dental review of the Detroit District Dental Society, Dr. Hillenbrand declared: "The greatest danger in the next few years is not invasion by the government, but rather loss of leadership by the health professions." If the health professions provide strong and

responsible leadership in meeting the demands of the people, the dental executive said that the traditional relationship between patient and health practitioner free of government interference will be maintained and perhaps even strengthened. But he warned that if the professions fail to make available and support acceptable methods and devices for expanding health care—such as prepayment plans—then the government will intervene.

The day when catch phrases such as "socialization" were acceptable in describing the supposed failings of health proposals has passed, said Dr. Hillenbrand. The public, he asserted, wants concrete proposals and explanations and will accept, and deserves, nothing less. Matters of health are of transcendent importance to the people and rise above political or factional considerations, Dr. Hillenbrand pointed out. He declared that when the government makes inadequate or undesirable health proposals, the health professions must counter with responsible measures which go to the centre of the problem.

Canadian Dental Schools

DALHOUSIE UNIVERSITY

Four Postgraduate Courses Scheduled. — The Faculty of Dentistry, Dalhousie University is offering four postgraduate courses during the winter.

The first course under the direction of Dr. K. M. Kerr will cover complete denture prosthodontics. This course which commenced on November 29, 1960, will continue each Tuesday afternoon from January 10 to February 7. During the course instruction and practical demonstrations will be given in all phases of complete denture construction and impression techniques.

The second course, which will be given in endodontics from January 23 to 25, will cover all phases of root canal therapy. Dr. D. C. Eaton will be course director.

From February 20 to 24 the third course, in oral surgery, will be given. This course will be directed by Dr. A. E. Hoffman and associates, with Dr. Albert Antoni of the University of Toronto as guest lecturer.

The final course will be given from February 27 to March 3 on removable partial denture prosthesis. Dr. K. M. Kerr and associates will direct the course, and Dr. H. W. Hart of the University of Manitoba will be a guest lecturer.

Students Publish New Journal — The first issue of a new undergraduate publication by the Dental Students' Society of Dalhousie University, the *Dalhousie Dental Journal*, was published in the late fall of 1960. Intended to serve as means of communication between students and graduates of Dalhousie University dental school and graduates of other Canadian dental schools, the new Journal will also afford undergraduates the opportunity of publishing interesting case histories, clinical reports and seminar digests. Such a publication also offers students the experience of preparing formal papers for publication. The Journal of the Canadian Dental Association extends a warm welcome and best wishes to the new *Dalhousie Dental Journal* and to its editorial staff.

Staff Notes — Dr. J. Findlay has been appointed full-time associate professor and head of the Department of Periodontics. Dr. Findlay holds the L.D.S. from the Royal Faculty of Physicians and Surgeons of Glasgow and the D.D.S. from the University of Toronto. It is anticipated that Dr. Findlay may also assume some responsibilities in the oral pathology lecture program in the future.

Dr. T. E. Spracklin and Dr. D. A. Fisher have received part-time appointments in the Department of Othodontics. Dr. Spracklin, a dental graduate of Dalhousie University, received the degree of M.Sc.D. from the University of Toronto. He lectures to second and third year students. Dr. Fisher, also a dental graduate of Dalhousie University, give group demonstrations to third and fourth year students. The department is acquiring cephalo-

metric equipment which will facilitate diagnosis and treatment of orthodontic cases.

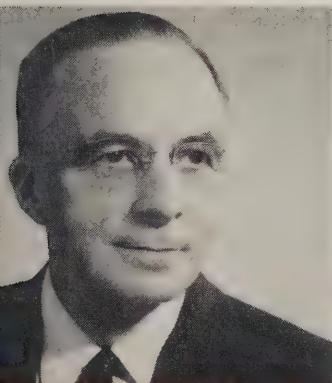
Mr. W. Dexter has been appointed as dental technician in the Faculty of Dentistry.

UNIVERSITY OF MANITOBA

New Full Time Appointments — A number of new full-time appointments have taken place at the Faculty of Dentistry during the past year.

W. R. Schram, D.D.S. (Minn.), M.S.D. (N.W.), professor of Oral Surgery, Department of Oral Biology, is the only American on the staff. A graduate of the University of Minnesota, he was in general practice from 1922 until 1938 in Baudette and St. Paul, when he joined Northwestern University in 1938 as assistant professor, Oral Surgery. He left Northwestern in 1960 as professor of Oral Surgery and came to Winnipeg to establish and head the same department in the new Faculty. Besides being past-president of the Chicago Society of Oral Surgeons, he is also a member of numerous other societies both in Canada and the U.S.A., and the author of an oral surgery manual which has already run into three editions. He is also the author and co-author of sixteen articles demonstrating his diversified interest in oral surgery, education and research.

R. G. Stephens, D.D.S. (Toronto), associate professor of Oral Diagnosis and Radiology, Department of Oral Biology, was born and educated in Ontario. He graduated from the University of Toronto in 1950. He then interned at the Eastman Dental Dispensary,



Dr. W. R. Schram,
Professor of
Oral Surgery.



Dr. R. G. Stephens,
Associate Professor of
Oral Diagnosis.



Dr. John D. Spouge,
Associate Professor of
Oral Pathology.



**Dr. J. Diepenheim, Associate Professor
of Operative Dentistry.**



**Dr. C. M. Dowse, Associate Professor
of Physiology.**

Rochester, N.Y. In 1952, he became an instructor in the Department of Oral Diagnosis and Radiology at Tufts University School of Dental Medicine in Boston. He left Tufts in 1959 as an associate professor and co-author of three articles. Before joining the new Faculty in Winnipeg, he spent a year at the Postgraduate Institute of Dental Surgery, Eastman Dental Hospital, London, England. Whilst there, he met and married a graduate of the University of Otago, New Zealand.

J. D. Spouge, M.D.S. (Sheffield), F.D.S., R.C.S., M.R.C.S., (England), L.R.C.P., L.M.S.S.A., (London), associate professor of Oral Pathology, Department of Oral Biology, is a graduate in medicine and dentistry of the University of Sheffield, England. He took up his medical and dental studies after World War II, having served with the British Army from 1940-46 in England, India and Burma as a Captain in the Royal Signals. Following graduation, appointments were held as house physician to the Cardiology Unit of the City General Hospital, Sheffield, and house surgeon in general surgery to the Royal Hospital, Sheffield. From 1958-60, he held the post of lecturer in Periodontology and Pathology at the Royal Dental Hospital, London, and joined the Faculty at Winnipeg in May 1960.

J. Diepenheim, D.D.S. (Alberta), Dip.Dent. (Utrecht), associate professor of Operative Dentistry, Department of Restorative Dentistry, joined the staff after a year's post-

graduate work in the Operative Dentistry Department of the University of Washington, Seattle. He is a graduate of the University of Utrecht, Holland, and the University of Alberta. Born in Djakarta, Indonesia, he received his education in the former Dutch East Indies and in Holland and has served both in the Netherlands Army and the Royal Netherlands Navy, seeing service in Great Britain, U.S.A., Indonesia and Holland. He has been in private practice in Holland and in Canada and has been a part-time instructor at the Faculty of Dentistry of the University of Alberta. From Alberta he moved to Seattle to specialize in operative dentistry before coming to the Faculty at Winnipeg. He is married with three children.

C. M. Dowse, Ph.D. (Durham), B.Sc. (London), is associate professor of Physiology, Department of Oral Biology. Following graduation from the University of London with a B.Sc. degree in Chemistry, Dr. Dowse served two years with the Royal Electrical and Mechanical Engineers. He then joined the Department of Physiology, King's College, University of Durham in 1952, where he taught Physiology to medical and dental students. At the same time he became interested in dental research and worked with Dr. G. M. Jenkins on certain aspects of fluoride uptake by teeth. He obtained his Ph.D., in 1955 and joined the Department of Radiation Biology, Rochester, N.Y., in 1958, to work with Dr. W. F. Neuman. It was from here that he joined the Faculty at Winnipeg in 1960. He is married with two children.

MCGILL UNIVERSITY

Dental Career Day—For the past few years members of the public relations committee of the Faculty of Dentistry, McGill University, under the chairmanship of Dr. H. Rosen, have participated in career days at various high schools in the city of Montreal and district. The committee has felt for some time that this approach was inadequate from the standpoint of stimulating recruitment of dental students. As a result a career day at the Faculty was planned for high school students on Saturday, November 26, 1960. Since this was experimental in nature, only Montreal Protestant schools were contacted through the local school board. Seventy-five senior high school students presented themselves at the Montreal General Hospital for the morning event.

The program, under the chairmanship of Dr. J. McCutcheon, dean of the Faculty was comprised of lectures, conducted tours of clinical and laboratory facilities, a motion picture presentation and a "question-and-answer" discussion period.

Dr. H. Rosen gave an introductory review of various aspects of private dental practice. This was illustrated by means of lantern slides.

Dr. M. A. Rogers spoke on the subject of dental specialties, graduate and postgraduate training.

Selected fourth year students acted as guides for the visitors who were then conducted through the clinic and the laboratory to observe the work in progress. This was followed by a showing of the film "Pattern of a Profession". This film is specifically designed for recruitment programs and proved to be most effective after the visitors had been afforded an opportunity of observing clinical procedures. The program terminated with a "question-and-answer" period conducted by Drs. H. Rosen and E. Ambrose.

The venture was considered a worthwhile undertaking from the recruitment and public relations aspects. It is hoped to make this an annual event at the Faculty of Dentistry, McGill University.

UNIVERSITY OF TORONTO

Summary of Registration for Session 1960-61—Undergraduate Course: Preprofessional Year 116, First Dental Year 113, Second Dental Year 119, Third Dental Year 77, Fourth Dental Year 72, Special Students 10. Dental Hygiene: First Year 21, Second Year

8. Postgraduate and Graduate Courses: Diploma Courses 11, Bachelor of Science in Dentistry 3, Master of Science in Dentistry 7, Special Student 1. This compares with 514 in Session 1959-60.

Royal Canadian Dental Corps

BRIGADIER BAIRD ATTENDS SYMPOSIUM

Brigadier K. M. Baird, Director General of Dental Services, attended the Surgeon-General's Symposium on the Biological Effects of Nuclear Weapons held in Camp Borden November 16-18, 1960.

MAJOR W. W. ANGLIN PROMOTED

Army Headquarters has announced the promotion of Major W. W. Anglin to the rank of Lieutenant-Colonel effective November 1, 1960.

Lt.-Col. Anglin is a native of Windsor, N.S. He attended high school at Mount Allison Academy in Sackville, N.B. and received his D.D.S. from McGill University in 1944. On graduation he enrolled in the Canadian Dental Corps. and served in No. 27 and 50 Companies until 1947 when he was accepted into the Canadian Army (Regular) and posted to Eastern Command. Since 1950 he has held appointments in Central Command with the exception of a one-year tour in Korea in 1952. He is at present attending a course in periodontics at the U. S. Naval Dental School, Bethesda, Maryland and on his return will resume his duties as senior dental officer at Camp Petawawa. Lt.-Col. Anglin is married with one child.

TWO LABORATORY OFFICERS COMMISSIONED

For the first time since the Second World War the R.C.D.C. has laboratory officers on its establishment. WO1 J. W. Lincoln and WO1 A. Van. Ryssel have been promoted to

the rank of Captain and fill these vacancies effective November 22 and 24 respectively. Captain Lincoln, a native of Moose Jaw and a veteran of 18 years' service with the Corps, will be employed at HQ No. 13 Dental Company, R.C.A.F. Station, Trenton. Captain Van Ryssel from Oakbank, Manitoba, who has served continuously since 1940, will remain at the R.C.D.C. School, Camp Borden, Ontario.

WO1 E. L. PROUDFOOT COMMISSIONED

Army Headquarters has announced the promotion of WO1 E. L. Proudfoot to the rank of Lieutenant effective November 24.

Lieutenant Proudfoot, an administrative officer, was born in St. Bernadin, Ont. and joined the Canadian Dental Corps in June 1942. He is currently employed at the Directorate of Dental Services and resides in Ottawa with his wife and two children.

NEW OFFICER IN THE CORPS

Dr. J. P. Houle has entered the Corps from private practice in Havre St.-Pierre, P.Q. He was commissioned as a Captain on November 7.

Captain Houle was born in Drummondville. He attended the Seminaire de Chambalay from 1945-49, the Collège St.-Laurent, Montreal where he obtained his B.A. in 1953 and received his D.D.S. from the University of Montreal in 1958. Captain Houle has been posted to No. 14 Dental Company for employment at Camp Shilo.

COURSES

The following dental officers have attended courses recently:

Major P. E. Fafard, R.C.A.F. Station, Clinton, Ont.—Oral Surgery at the University of Michigan, Ann Arbor, Michigan.

Captain J. J. N. Wright, The R.C.D.C. School, Camp Borden—Endodontics at the University of Michigan, Ann Arbor, Michigan.

CAPTAIN SCOTT ENTERS PRIVATE PRACTICE

Captain J. B. Scott has entered private practice in Camp Borden following eight years' service with the R.C.D.C. in Canada and Europe.

Public Health

METRO VANCOUVER DENTAL PROGRAM

The 1959 annual report of Dr. D. J. Yeo, director of Dental Health Services, Greater Vancouver Metropolitan Health Committee, describes that city's dental health program for preschool and grade 1 children. 12,097 children were enrolled in grade 1 classes during the year 1958-9. Of 11,969 grade 1 children examined in that year, 4,984 children (41.3 per cent) did not require attention at the time of examination. Of the remaining 6,985 children, 3,534 received complete dental (caries) treatment in public clinics; 316 commenced but did not complete treatment; and 2,734 children obtained treatment from private dentists. Thus 11,252 or 94.1 per cent of the grade 1 children inspected attained a good level of dental health during the year.

Coverage of preschool children has been quadrupled during the last five years. The 6,444 preschool children registered with the dental program during 1958-9 represent more than 50 per cent of next year's grade 1 enrolment.

C.P.H.A. DENTAL HEALTH SECTION

The annual meeting of the Canadian Public Health Association will be held at the Hotel Saskatchewan in Regina, Saskatchewan, June 6-8, 1961. Officers of the Dental Health Section for 1960-61 are:

Chairman and section delegate to the Executive Council—A. E. Chegwin, Regina.

Vice-chairman—C. W. B. McPhail, Edmonton.

Secretary—R. A. Connor, Winnipeg.

THREE DENTAL OFFICERS APPOINTED IN ALBERTA

Dr. C. A. White, a graduate of the University of Alberta, has been appointed as dental officer with the Red Deer Health Unit. A native of Red Deer, Dr. White has been practising in that city since 1946.

Dr. E. V. Dolinsky, a graduate of the University of Alberta, has been appointed as part-time dental officer with the Jasper National Park Health Unit. Dr. Dolinsky

has practised in Jasper for the past two years.

Dr. V. E. Capogreco, a graduate of McGill University, has been appointed as dental officer with the Calgary Health Department. Dr. Capogreco was formerly with the Directorate of Indian and Northern Health Services, Department of National Health and Welfare, and recently obtained his diploma in Dental Public Health from the University of Toronto.

DENTAL CARE PROGRAM IN RURAL ALBERTA

Dr. L. Stewart of Edmonton has participated in the recently introduced program of the Provincial Department of Public Health for the benefit of health units desiring to establish a dental service, but unable to procure the services of a full-time dental officer. Under this scheme a health unit may apply to the department for the services of a series of roster dentists who have offered, through the Alberta Dental Association, to spend two weeks each in any part of the province. The department provides equipment and pays transportation costs for a dentist to visit outlying districts.

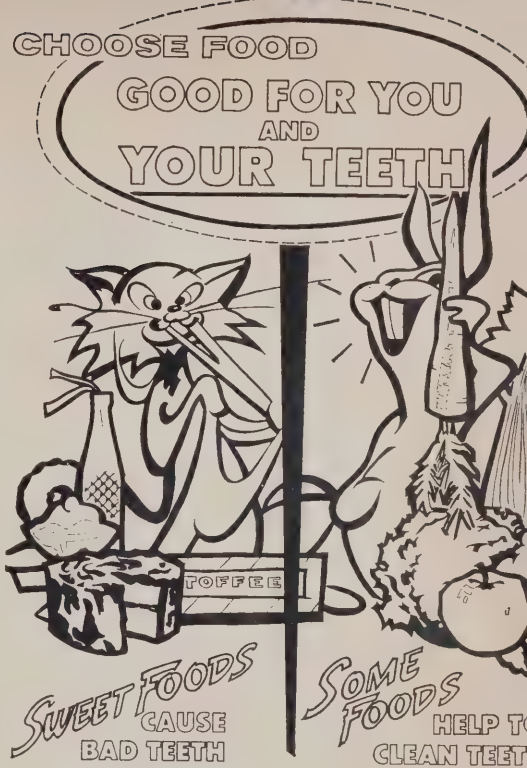
During October, 1960, Dr. Stewart visited McMurray with the department's portable dental equipment. Three other health units, Athabasca, Edson and Vegreville, have availed themselves of services under this plan.

TWO NEW DENTAL HEALTH POSTERS AVAILABLE

Two new posters have been produced by the Dental Health Division, Department of National Health and Welfare. They are available for distribution through provincial and local health departments.

The poster "Choose Food Good for You and Your Teeth" is a colourful cartoon with an important message. The candy-chewing cat illustrates the point that "Sweet Foods Cause Bad Teeth." The rabbit, who eats raw vegetables, says "Some Foods Help to Clean Teeth." The poster is designed for children in the primary grades. This poster is also available in black and white and can be coloured by children.

The poster "Wherever You Are, Brush or Rinse" shows a little girl in four different line drawing sketches, cleaning her teeth with the available means under the circumstances. The four sketches are drawn to-



Dental Health Division
DEPARTMENT OF NATIONAL HEALTH AND WELFARE
Ottawa

gether with a centre block, a smiling face of a child. This poster is designed for use with elementary school children.

BRITISH COLUMBIA DENTAL HEALTH SURVEYS

Since 1956 the annual dental health surveys, organized by the Division of Preventive Dentistry of the Health Branch, British Columbia Department of Health Services and Hospital Insurance, have been carried out each year with the generous co-operation of many of the practising dentists of this province. Results covering the whole province for the year 1958-1960 are now being prepared for publication. The value of these surveys has already been shown by the improvements in the status of dental health of children in the Fraser Valley demonstrated between the years 1956-1959.

These surveys, however, have two purposes: (i) to demonstrate differences between the dental health status of children of different regions of the province and (ii) to demonstrate difference in the same region over a span of years and in the whole province.

TABLE I
Comparison of Fraser Valley Dental Health Surveys 1956 and 1959
(Combined Ages 7 + 15 years)

Criterion	%	1956 Standard Error	%	1959 Standard Error	Significance of Difference
1. No Dental Defects	2.5	0.5	6.7	0.7	1%
2. No Caries Defects	7.9	0.9	15.5	1.0	1%
3. Lower 1st Permanent Molar or Crown Lost	27.0	1.5	18.8	1.1	1%
4. Poor Oral Hygiene	53.8	1.7	37.8	1.4	1%
5. Abnormal Gingival Condition	18.9	1.3	7.6	0.7	1%
6. Abnormal Occlusion	78.8	1.4	62.6	1.4	1%
7. D.M.F. Rate	Rate 6.4	S. E. 0.8	Rate 6.2	S.E. 0.8	Not significant
8. Smooth Surfaces Caries Attack Rate	16.8	0.9	13.6	0.4	1%

Limited by the size of the sample of children examined, the results for individual health units require to be viewed with some caution, and not revealed will be changes in the dental health status of the children of any one community except in Greater Vancouver and Greater Victoria.

The first dental health survey of children in the Fraser Valley was made in 1956. Together with concurrent surveys made in Greater Vancouver and Greater Victoria, this was the start of a planned survey applied to the whole of British Columbia in order to procure baseline data establishing the dental status of school children in an entire province.

A further survey of the Fraser Valley has recently been completed. Table I shows the results in modified statistical form. The area encompassed by the surveys includes the four health units of Simon Fraser, North Fraser, Upper Fraser and Boundary. The region lies north of the international border between New Westminster and White Rock on the west extending east to Hope, and north to Boston Bar.

It is clear that dental conditions in 7 to 15 year-old children have improved during the three-year interval between the surveys. Statistically significant improvement is reflected in all criteria except the D.M.F. rate, where the decline is not statistically significant. These changes are attributed to greater awareness of the benefits of dental health, improved oral hygiene practice and the effects of community preventive dental clinics. 6,415 young children received dental treatment in these clinics from 1949-55. In very many cases, accompanying parents were advised at the chairside by the attending dentist, regarding sound dental health practices. From 1956-58 a further 9,356 children (2,301 preschool and 5,611 grade 1 children) received similar attention.

It is also noteworthy that the four health units of the Fraser Valley were the first in the province to have the full-time services of a regional dental consultant with post-graduate public health training. This service commenced in the fall of 1954.

DENTAL HEALTH DAY (ONTARIO)
Wednesday, March 15, 1961

BOOK REVIEWS

Dental Practice Administration

Prepared by: Robert K. Stinaff, D.D.S.,
F.I.C.D.

Published by: The C. V. Mosby Co.

Pages: 271. Price: \$7.50.

This is an excellent book on the subject of practice administration, and it should be read by both students and graduates. The author first gives a concept of practice administration. He then discusses making the choice between private practice, military service, public health and teaching. The selection of a location for the office, rents and whether to go in for group or independent practice is well covered. The chapter devoted to planning the office covers the type of building, office layout, etc.

Various chapters take up the following subjects: Equipment for the office, financing, purchasing dental supplies and supplies for the business office, making yourself known, use of auxiliary personnel, appointment control, handling patients, fees, collections, case presentation, communications, lay education, growth of practice, philosophy, ethics and jurisprudence.

Office and personal business involvements are discussed including such items as taxes, insurance and consultations.

The final chapters are called "Facing the Facts" and "This and That". The former gives good advice on having affairs arranged so that his wife and family will have a minimum of difficulty in disposing of his practice following the death of the professional man. The latter is used to pick up the loose ends.

Dr. Stinaff quotes from Dr. Kent's book published in 1929 called "The Business Side of Dentistry". I had always considered this the best of the small textbooks on Practice Administration until reading Dr. Stinaff's new book, which I think should now be placed at the top of the list.

H. S. Crosby.

Dental Health Education

Prepared by: Frances A. Stoll, R.D.H.,
Ed.D. Second Edition.

Published by: MacMillan Co. of Canada
Ltd.

Pages: 253—Illustrated. Price: \$5.50.

In this second edition the original format has been retained but the illustrations, charts and tables have been revised, and a new chapter has been added.

In a reasonably small textbook the author has made a most comprehensive study of a comparatively new subject in health education. In any manual on health education there is generally very scanty information on dental health, so that it is a pleasure to be able to refer to a book such as this. To dental health educators, who often tend to become too circumscribed and stereotyped in their methods, it offers a refreshing variety of suggestions and new ideas with which to experiment.

The first part of the book emphasizes the need for dental health education as an integral part of community life, and presents a number of approaches to dental health education in the schools at the different age levels. The last part describes a variety of instructional materials which can be used. In addition there is a chapter on adult education. In the Contents each chapter is broken down into several headings which makes for easy reference. There is also an excellent bibliography at the end of every chapter.

Perhaps it would have been difficult in so concise a textbook, but it seems unfortunate that more space was not given to public health methods of caries control. There is also a very obvious need for public education on fluoridation, but this subject is only lightly touched upon.

To health educators in general, and to dental hygienists in particular, this book should be an invaluable aid. It is strongly recommended both as a source of information and also for reference purposes.

B. J. O'Meara

THE LIBRARY

Additions

DENTAL CLINICS OF NORTH AMERICA, November 1960. Symposium on controversies in dentistry. Sumter S. Arnim, consulting editor. Philadelphia, Saunders, 1960, 883p. illus.

FAULKNER, E. J. Health insurance. New York, McGraw-Hill, 1960. 636p. \$10.00

GURLEY, J. E. The evolution of dental education. Fulton, Mo., The Ovid Press, Inc., 1960. 276p. illus. \$9.25

HARVOLD, E. P.—HATTON, M. E. Interceptive orthodontics. (Practical Dental Monographs, November 1960.) 32p. illus.

JAMES, W. W. The jaws and teeth of primates. London, Pitman Medical Pub., 1960. 328p. illus. \$18.00

ROYAL COMMISSION ON DOCTORS' AND DENTISTS' REMUNERATION, 1957-1960 Report. London, Her Majesty's Stationery Office. 346p. \$3.00

Library Marks Ten Years' Service.

Publication of a new library catalogue will mark the tenth anniversary of the establishment of a dental library at Canadian Dental Association headquarters. Popularity of library services is attested by circulation growth and the steady physical growth of the library.

Almost 3,000 volumes are now in the collection, including 643 bound volumes of periodicals. The library regularly receives 175 dental periodicals from all parts of the

world. About twenty medical publications and ten devoted to public health are also received. These, coupled with a steady flow of news letters, annual reports and miscellaneous bulletins, enrich the new reference section. Membership for the last two years in the Medical Library Association has provided an excellent exchange service. The benefits of this affiliation are reflected in the increasing number of interesting dental and public health periodicals now on hand. Emphasis has been directed toward building a collection of modern dental literature. The shelves are well stocked with publications of the past decade. A limited number of vintage books is on hand, donated by members of the profession and by other libraries. When the library was first established, the American Dental Association generously donated many duplicate copies of books from its own library. In turn, the C.D.A. library has assisted other dental libraries by donation of books and periodicals. Some members of the Association have made generous gifts of books and periodicals, some of historical significance. Until very recently, the annual budget of the Canadian Dental Association has made no allocation of funds to the library because gifts have been sufficient to cover expenses. Donations are used mainly for the purchase of books and are eligible for income tax deduction.

Oversight of library affairs is in the hands of three library trustees. They are the Association president and secretary and the new chairman, E. R. W. Bilkey of Toronto. The library has been fortunate in having the continuous services of Miss Colette Gagnon as librarian from the beginning. She and the officials of the Association look forward to continued growth of the library as a service to C.D.A. members.

**By Feb. 15th
OVER \$1,000,000.00
TAX DOLLARS
CAN BE SAVED BY CANADIAN DENTISTS
BY INVESTING 10% OF EARNED INCOME
IN THE
CANADIAN DENTAL ASSOCIATION
RETIREMENT SAVINGS PLAN**

The Canadian Dental Association Retirement Savings Plan (CDARSP) is a tax deductible investment savings plan established by your Association in December 1957. It is registered with the federal government to permit deferment of income tax on investments set aside for later purchase of retirement annuities.

CHOICE OF THREE INVESTMENT FUNDS

The plan has three separate funds: Government Bond Fund, Corporate Bond Fund, and Common Stock Fund. Your contributions purchase units in any or all of these Funds as directed by you.

BENEFIT OF GROUP ACTION

CDARSP has the economies usually associated with group action. The pooled deposits of all participants in the Plan make up amounts which can be invested more effectively than individual amounts contributed by a single participant. Safety and security are other benefits.

FLEXIBILITY OF THE PLAN

You may vary or even suspend your contributions but maximum advantage is obtained by making regular quarterly contributions. Distribution of your contributions among the three Funds may be changed, and transfer of units from one Fund to another may be arranged.

JOIN CDA RETIREMENT SAVINGS PLAN BY FEB. 15

Complete the application on reverse side and mail with your cheque by February 15. Your contribution may be any amount up to 10% of your earned income and will qualify for 1960 income tax deductions.

APPLICATION FOR PARTICIPATION IN THE CANADIAN DENTAL ASSOCIATION RETIREMENT SAVINGS PLAN

I hereby apply for participation in the Canadian Dental Association Retirement Savings Plan, the provisions of which are familiar to me. I request that the instruments evidencing the terms of such membership be registered as a Retirement Savings Plan under the Income Tax Act. I understand that as a consequence of such registration, payments out of the Plan to me or to my executors or legal representatives will be subject to tax under the provisions of the Income Tax Act.

I undertake, upon request, to provide proof of age satisfactory to the issuer of any annuity contracts provided to me as a benefit under the Plan.

I hereby appoint the Canadian Dental Association to act as my Agent in negotiation of contracts and agreements to carry out the provisions of the Canadian Dental Association Retirement Savings Plan, and through the Association, I grant discretionary investment powers to The Royal Trust Company as Managers of the Funds.

NAME
SURNAME COMPLETE CHRISTIAN NAMES

ADDRESS
STREET AND NUMBER CITY OR TOWN PROVINCE

DATE OF BIRTH SEX
DAY MONTH YEAR

CONTRIBUTIONS: Cheques should be made payable to C.D.A. Retirement Savings Plan, 2249 Yonge Street, Toronto, Ontario.

(a) I enclose cheque for \$..... as my first contribution under C.D.A.R.S.P. which I request be allocated as follows:

GOV'T BOND FUND	CORP. BOND FUND	COMMON STOCK FUND
.....%	%	%

Complete (b) if you wish to make regular contributions.

(monthly)
(b) I wish to make regular (quarterly) payments of
(annual)

\$..... Starting on.....
DAY MONTH

I understand that these regular payments can be altered at any time, and that I may make additional contributions within permitted limits.

Each contribution year ends on February 15th. All contributions received during the yearly period—February 16th to February 15th—are classified for tax purposes as contributions made during the calendar year which ends during this period. Receipt for Income Tax purposes together with a personal statement of account will be issued each March.

DEATH BENEFITS: In the event of your death before annuity payments commence, any proceeds will be paid to your executors or legal representatives.

Please send booklet describing plan in detail ☐

DATE.....APPLICANT'S SIGNATURE.....

IN MEMORIAM

Harry Michael Katzenmeir — Dr. Harry Michael Katzenmeir of Willowdale, Ontario, died on November 3, 1960. He was 67.

Born in New Hamburg, Ontario, he received his early education in New Hamburg and Kitchener. In 1917 Dr. Katzenmeir graduated from the Royal College of Dental Surgeons of Ontario. From 1918 to 1927 he practised in Kitchener, and from 1930 to 1942 in New Hamburg. He joined the Canadian Army in 1942 and served until 1946 when he returned to New Hamburg where he practised until 1958 and then moved to Willowdale.

Dr. Katzenmeir served as dental officer for the North York Department of Public Health from 1956-1960. He was a member of the New Hamburg Public and Continuation School Board from 1933-1939, and was elected chairman in 1937. He was also a member of the Masonic Grand River Lodge 151 and a member of the Canadian Legion.

Surviving are a brother, Earl C. and a sister, Mrs. R. Luckhart.

Howard W. Burchell — Dr. Howard W. Burchell of Sydney, Nova Scotia, died in December 1960. He was 86.

Dr. Burchell was born in Sydney in 1873. He graduated from the Pennsylvania College of Dental Surgery in 1894. Too young to practise his profession, he entered the office of the late Dr. Herbert Woodbury, dean of what is now known as Dalhousie Dental College. In 1885 he established his practice in North Sydney, from which he retired in 1938.

In 1942 he went to Sydney to assume the duties of Dr. L. G. Israel, who served during the remaining three years of World War Two with the Canadian Army. He retired permanently in 1945.

An ardent Rotarian, he was also a valued member of the Cape Breton Dental Society. Dr. Burchell was a very active member of his church and men's club.

Surviving are his wife, Sadie; one son, Norman; a brother, George, and a sister, Mrs. W. E. Clarke.

John Murray McLeod—Dr. John Murray McLeod of Toronto, Ontario, died on September 28, 1960. He was 64.

Dr. McLeod was born at Woodstock. He graduated from the Royal College of Dental Surgeons of Ontario in 1921 and set up practice in Toronto where he practised for 34 years. For 39 years he had been employed by the Toronto Department of Public Health in school dental clinics. Dr. McLeod was with the Division of Signals during World War I from 1916-1918.

An ardent sailor, he was a member of the Royal Canadian Yacht Club and a life member of the National Yacht Club of which he was Vice-Commander in 1939.

He is survived by his widow, Marian; two sons, Douglas and William; a brother, William, and a sister, Mrs. B. Millar.

Frank Harvie Penwill—Dr. Frank Harvie Penwill of Vancouver, B.C., died on November 6, 1960 at the age of 57. He had been in ill-health for some time.

Dr. Penwill was born in Vancouver in 1903. He graduated from the North Pacific Dental College of the University of Oregon in 1927 and had practised in Vancouver until a month previous to his death.

A well-known athlete in the 1920's, he played on the University of British Columbia's McKechnie Cup rugby team and coached the U.B.C. swimming team. In more recent years he was an executive with the Crescent Swimming Club founded forty years ago by his father a noted Victoria sportsman. During his years at university in Portland, he played championship basketball and rugby and earned a letter in soccer.

Surviving are his wife, and two daughters.

John Bellamy Donnelly—Dr. John Bellamy Donnelly of St. Catharines, Ontario, died on June 13, 1960. He was 60.

Dr. Donnelly was born at Athens, Ontario, in 1900. He graduated from the Royal College of Dental Surgeons of Ontario in 1922.

He is survived by his wife.

Ira Wilson Hamilton—Dr. Ira Wilson Hamilton of Ottawa, Ontario, died on November 11, 1960. He was 66.

Dr. Hamilton graduated from the Royal College of Dental Surgeons of Ontario in 1922 and practised in Ottawa. He distinguished himself in two world wars. Enlisting from high school, he served in World War I and saw active service in France. Dr. Hamilton was a member of the Military Committee of the Canadian Dental Association, which assisted the Minister of National Defence in forming a dental service that became known as the Royal Canadian Dental Corps. He enlisted on declaration of World War II and was second in command of the First Dental Company of the Canadian Army Active Service Force. This was the first dental unit sent overseas in the second world war. In 1941 he was posted to Kingston, Ontario, as commander of No. 23 Company.

After his return from World War II he limited his practice to orthodontics. He was representative for district No. 1 on the Board of the Royal College of Dental Surgeons of Ontario from 1957 to 1960, and was made a Fellow of the American College of Dentists for his distinguished contributions to dentistry.

Dr. Hamilton belonged to Doris Lodge AF & AM, and the Laurentian and Abberford Fish and Game Clubs.

He is survived by three daughters, Mrs. D. C. McIntosh, Mrs. C. S. Kidd and Mrs. A. P. Sherwood; a brother, R. G. Hamilton, and a sister, Mrs. J. J. Rowlands.

Martial Fleury—Dr. Martial Fleury of St. Donat, Quebec, died on September 26, 1960. He was 72.

Dr. Fleury was born at Ste. Mélanie, Co. Joliette, Quebec in 1888. He received his dental degree from Laval University in 1914.

James Edward Blanchard—Dr. James Edward Blanchard of Charlottetown, P.E.I., died on October 18, 1960. He was 66.

Dr. Blanchard was born in Charlottetown and received his early education at Queen Square School and later attended St. Dunstan's University. He received his dental degree at Baltimore Dental College in 1916.

Dr. Blanchard was Mayor of Charlottetown from 1944 to 1946 and previous to that served on the City Council for nearly 20 years. He was a member of the Knights of Columbus for many years and was president of the Victoria Hockey Club in the early 1920's. He was also a captain in the army in the First World War.

He is survived by his two daughters, Phyllis and Florence, and one sister, Catherine.

James Andrew MacLeod—Dr. James Andrew MacLeod of Truro, N.S., died on November 6, 1960 as a result of injuries sustained in a two-car collision which also claimed three other lives. Dr. MacLeod was 55.

Born in Sydney, N.S., he spent most of his youth in Port Hastings. He graduated from Pictou Academy and later from Dalhousie University where he received his dental degree. Dr. MacLeod was a popular and prominent figure on the campus and was affectionately known as "Big Jim". A promising athlete, he was particularly adept at boxing and was at one time the Maritime inter-collegiate heavyweight boxing champion. In Truro and other areas where he resided he continued to be active in the sport, conducting boxing classes and managing a number of well-known figures in the boxing world.

Following graduation, Dr. MacLeod set up practice in Sheet Harbour and later moved to Shubenacadie and then to Bridgewater. He served with the Canadian Army Dental Corps during the war and was attached to the 7th General Hospital Unit. He held the rank of major. After his discharge he moved to Truro and took over the dental practice of the late Dr. C. MacArthur.

He was prominent in Boy Scout work. For several years he was District Scout Commissioner for Colchester and at a recent meeting of that organization he was recommended again for that post. He was also instrumental in starting and carrying on the Boy Scout camp at East Wallace. Dr. MacLeod was also a member of the Masonic Order, Lodge Solomon No. 46, Port Hawkesbury. In Truro, he was a charter member and past master of Fellowship Lodge No. 112, and had served on various Grand Lodge committees. He was also a member of Keith Chapter No. 4, being past high priest and was an 18th degree Scottish Rite member. He was a member of the Truro Curling Club, and a former member of the Kiwanis Club.

Surviving are his wife, Muriel; one daughter, Helen; one son, James; a sister, Lillian; two brothers, Rod and Henry, and an aunt, Mrs. M. Reynolds.

Donald McMaster MacIntyre—Dr. Donald McMaster MacIntyre of Windsor, Ontario, died on September 19, 1960. He was 82.

Dr. MacIntyre was born in Appin, Ontario in 1878. He graduated from the Royal College of Dental Surgeons of Ontario in 1904. He had practised in Windsor for 47 years.

Dr. MacIntyre was an honorary member of the Michigan Dental Society and the Essex County Dental Society.

Surviving are his widow, Margaret, one daughter, Jane, and one brother, Alex.

Morris Clark Mills—Dr. Morris Clark Mills of Fenelon Falls, Ontario, died on August 21, 1960, following a long illness. He was 64.

Dr. Mills was born at Schomberg, Ontario. He graduated from the Royal College of Dental Surgeons of Ontario in 1917 after which he lived and practised in Fenelon Falls for 43 years.

He was a member of the Rameses Temple of the Mystic Shrine.

Dr. Mills is survived by his wife Edith, and by his aged mother. Also surviving are two brothers, Dr. Oscar and Dr. Frank, and two sisters, Beatrice and Anne, and nephew, Dr. Douglas Mills.

Evan McBean Galbraith—Dr. Evan McBean Galbraith of Edmonton, Alberta, died on September 25, 1960, after a prolonged illness. He was 59.

Born in Guelph, Ontario, he went to Alberta in 1907, and received his early education in Red Deer. He graduated from the University of Alberta in 1929 and practised at Alliance and Ponoka before joining the Canadian Dental Corps in 1941. He left the Corps as a major in 1945 and practised in Edmonton until illness forced his retirement last January.

Dr. Galbraith was a charter member of the South Side Rotary club and a past master of the Patricia Lodge No. 91 AF & AM and a first principal of the North Star Chapter No. 2 R.A.M. He was also a member of Edmonton Preceptory No. 46 Knights Templars.

Surviving are his wife, two sons, Barry and David; one sister, Mrs. C. Caton, and two brothers, Philip and Alan.

Gordon Wabum Whyte—Dr. Gordon Wabum Whyte of Peachland, B.C., died on September 25, 1960 on board a small freighter, en route home following a five-month holiday in Europe. He was 66.

Dr. Whyte was born in Kamsack, Saskatchewan, in 1894, he received his early education in local schools. Following his father's death Dr. Whyte worked in a drug store until he enlisted in 1914, with the Fort Garry Horse. After being overseas for some time he was badly wounded at Cambrai in 1917 and was invalided home in 1918. Following his discharge from the Army he entered the University of Toronto to obtain his dental degree, graduating in 1924. Dr. Whyte practised in D.V.A. hospitals in Winnipeg, Ottawa and Vancouver until his retirement in 1948, when he returned to Peachland.

Surviving are two brothers, Bryson M. and Farrell.

Robert Milton Armstrong — Dr. Robert Milton Armstrong of Ottawa, Ontario, died on October 31, 1960. He was 81.

Dr. Armstrong was born at South March, Ontario, in 1879 and received his early education there and at the Ottawa Collegiate Institute. He graduated from the Royal College of Dental Surgeons of Ontario in 1900. He practised in Ottawa for more than fifty years.

He was a former president and honorary member of the Ottawa Dental Society. One of the oldest past masters of Doric Lodge 58, AF and AM, he was a member of the Ottawa Lodge of Perfection and Murray Chapter Rose Croix of Scottish Rite. He was also a member of the Independent Order of Odd-fellows.

Surviving are three sons, Dr. Harold E., dentist; Milton Erele, lawyer, and Dr. Robert A., physician, and one brother, Alan.

Amaury Charles Voisard — Dr. Amaury Charles Voisard of Montreal, P.Q., died on September 5, 1960. He was 59.

Born in Woonsocket, R.I., Dr. Voisard came to Canada with his family as a child and lived for some years at Massawippi, Quebec. He was educated at North Hatley High School and St. Patrick's Academy, then continuing his education at McGill University, he graduated in dentistry in 1927. He established his practice in Outremont where he was practising at the time of his death.

Surviving are his wife, Muriel; two daughters, Susan and Louise; a son, Paul; two sisters, Mrs. J. McEvoy and Mrs. R. Amy, and five brothers, Joseph, Hector, Oswald, Edgar and Ivanhoe.

Irving Lyon Hyman—Dr. Irving Lyon Hyman of Moose Jaw, Saskatchewan, died on October 26, 1960. He was 49.

Born in Yassi, Romania, Dr. Hyman came to Canada as a child and settled with his parents in western Canada. He later moved to Toronto and graduated from the University of Toronto Faculty of Dentistry in 1931. Dr. Hyman returned to Saskatchewan and became a leader in community affairs. He was known for his work treating people in remote areas who would otherwise not have had dental care. He was a keen competitor in national tennis tournaments.

He is survived by his wife, Jean; three children, Carol, Danny, and Debbie, and three sisters, Esther, Rebecca and Mrs. Tarnow.

ANNOUNCEMENTS

Conventions of the Canadian Dental Association

1961	Saskatoon, Saskatchewan	June 4th-7th
1962	Vancouver, British Columbia	June 3rd-6th
1963	Toronto, Ontario	May 19th-22nd
1964	Edmonton, Alberta	June 28th-July 1st
1965	Quebec City, Quebec	May 30th-June 2nd
1967	Toronto, Ontario	May
	(Centennial Celebration of Dentistry in Canada)	

FUTURE EVENTS

Date	Function	Location	Officer	Address
Jan. 13, 1961	Alpha Omega Fraternity Montreal Chapter	Montreal General Hospital	Dr. H. L. Levitt	5757 Decelles Ave., Montreal 26, P.Q.
Apr. 27-30, 1961	Spanish Society of Orthodontics	Valencia, Spain	Dr. A. J. Cervera	29 Avenida del Oeste, Valencia, Spain
May 20, 1961	Canadian Society of Dentis- try for Children, Ontario Chapter Annual Meeting	King Edward Hotel, Toronto	Dr. D. L. Rife, Secretary	3014 Bathurst St., Toronto, Ont.
May 21-24, 1961	Ontario Dental Associa- tion Convention	Royal York Hotel, Toronto, Ont.	Mrs. A. Durham	230 St. George St., Toronto 5, Ont.
June 4-7, 1961	Western Canada Dental Society Convention	Bessborough Hotel, Saskatoon, Sask.	Dr. N. E. Groppe	704 Canada Bldg., Saskatoon, Sask.
June, 1961	Pierre Fauchard's Bi- Centennial Celebration	Paris, France	Dr. M. Filderman	67 rue de Tocque- ville, Paris 17e, France
Nov. 12-19, 1961	Uruguay-Argentine Inter- national Dental Congress	Montevideo, Uruguay	Dr. J. C. Turell	Av. Agraciada 1464 (P.13), Montevideo, Uruguay

POSTGRADUATE COURSES AND REFRESHER COURSES (Canada)

MANITOBA—The Faculty of Dentistry, University of Manitoba, will present a SEMINAR ON ENDODONTOLOGY, April 21-22, 1961. Dr. B. Nygaard Ostby, eminent authority in the field of endodontics from Oslo, Norway, will conduct the course covering pathology, inflammation and bacteriology related to the pulp and apical periodontium; surgical and conservative management of pulp-involved teeth; root filling materials and instrumentation; root resection and apical curettage; management of traumatized anterior teeth; and re-implantation.

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L'hypnose en chirurgie dentaire*

par Paul Dionne, B.A., D.D.S., Joliette, P.Qué.

L'hypnodontie en Amérique—tel est le thème que je voudrais développer devant vous en cette rencontre. Mais c'est un sujet si vaste que je vais être obligé de l'abréger et de m'en tenir à ses aspects les plus pratiques et les plus utiles. Mon propos vous en livrera cependant une vue d'ensemble ainsi que des statistiques concernant le travail qui se fait sur l'hypnose au Canada et aux Etats-Unis. Je n'ai pas évidemment la prétention de vous parler en professeur. Tout au plus ai-je l'intention de vous faire partager ce que mon expérience personnelle m'a appris dans ce domaine.

Le premier but général dans l'utilisation de l'hypnose en dentisterie est d'aider nos patients à se détendre. C'est un fait que la plupart des gens qui viennent à notre cabinet sont sous une tension plus ou moins grande; ce qui altère la qualité et

la durée de notre travail. Evidemment, nous les invitons à se détendre, mais nous ne leur enseignons pas suffisamment comment procéder. Et pourtant, voilà une occasion idéale de prouver notre propre habileté, notre propre adaptabilité devant une telle situation, notre propre approche "réaliste," si je puis ainsi traduire et employer la terminologie d'ERICKSON: "naturalistic approach". Comme question de fait, ne serait-ce pas que notre fonds de culture psychologique soit incomplet? Et d'ailleurs, quand est-il vraiment complet? Je voudrais insister ici sur la nécessité pour chaque dentiste de se familiariser avec la connaissance pratique du comportement humain, des émotions et des bases psychologiques des émotions. Cette connaissance est encore importante pour faire face aux dangers qui naissent de troubles émotionnels.

Je voudrais indiquer ce qui me paraît être le premier principe pratique de notre comportement, lorsque nous voulons aider

* Conférence présentée au 9ième Congrès dentaire international franco-suisse, à Nice, le 11 juillet 1960.

un patient en état de tension: et c'est d'avoir une approche positive; positive dans notre façon de parler, positive dans notre attitude. Combien de fois ne disons-nous pas à nos patients de ne pas avoir peur et surtout de ne pas anticiper une douleur qu'ils pourraient ou non sentir. Nos suggestions s'arrêtent malheureusement là et nous manquons de leur donner les explications suffisantes ou les moyens précis de se détendre. Et l'effet désiré est alors perdu complètement, car le patient en état de tension reçoit avec méfiance des phrases négatives telles que: "N'ayez pas peur" . . ., etc, et, instinctivement, il se mettra sur ses gardes. Cette manière de parler, donc, ne fait qu'accroître la tension et conséquemment la douleur.

Et maintenant, en vue de réaliser cette approche positive, une première condition élémentaire doit pouvoir se trouver dans notre propre attitude mentale envers l'hypnose. Il va sans dire que, encore aujourd'hui, l'idée exacte et précise de l'hypnodontie n'est pas pleinement comprise par le public et même par quelques dentistes. On a encore l'idée plus ou moins consciente de quelque chose de magique et de rapide. Il faut donc réfléchir que l'hypnose est une aide et non un moyen unique de travailler. Nous l'utilisons comme un instrument psychologique à la portée de la main, mais tous les autres ne doivent pas être mis de côté; au contraire, ils doivent être présents.

L'hypnose doit être employée judicieusement en dentisterie et il faut en tout premier lieu considérer les besoins du patient, centrer sur lui toute notre activité. Dans l'usage de nos techniques d'induction, durant l'approfondissement de la transe et pendant tout le travail sous hypnose, il est nécessaire de sans cesse tenir compte des valeurs subjectives de l'élément temps; c'est-à-dire que nous devons laisser au patient le temps nécessaire afin que son inconscient puisse assimiler et réagir selon son propre rythme. Ne jamais oublier non plus que le sujet en état de transe répond aux stimuli d'une façon littérale, simple et relativement primitive comme dans les rêves.

Déjà nous bénéficions du prestige attaché à notre profession. Si par ailleurs nous aidons à accroître la force de la motivation, si nous rencontrons les besoins réels du patient, si nous développons un état de réceptivité immédiate, si nous tenons compte du temps expérimental du sujet, si nous savons bien nous servir de la suggestion, de la répétition, de la concentration, de la détente, de certains signaux, et enfin, si, au moment propice, nous savons utiliser même des suggestions extra-verbales, nous devrions presque toujours avoir quelque succès d'une manière ou d'une autre.

Parfois, le seul prestige suffit à établir un bon "rapport". En guise d'illustration, voici un cas typique: une dame attendait, assise dans ma seconde chaise dentaire, le moment de se faire extraire une dent. J'étais en train de prendre quelques minutes de repos en grillant une cigarette derrière elle. Soudainement, elle me dit: "Vous êtes à m'hypnotiser, je le sais, . . . déjà je sens ma mâchoire s'engourdir". Je me retournai plutôt surpris, mais prenant immédiatement avantage de la situation, je lui donnai les suggestions appropriées afin de rendre l'injection plus facile. Je crois vraiment qu'elle était en état de transe légère.

Je pose maintenant la question: pourquoi certains dentistes commencent-ils à utiliser l'hypnose avec enthousiasme et, peu de temps après, l'abandonnent? La principale raison semble être qu'ils aient été déçus. Ils n'ont pas trouvé dans l'hypnose l'effet magique qu'ils espéraient confusément. Bien sûr, ils devraient continuer de l'utiliser, mais avec un point de vue différent; celui d'un art mêlé à la psychologie quotidienne. Il faut dire plus: la connaissance de la psychologie générale, même de la psychologie de l'anormal (au moins dans sa symptomatologie et ses classifications) n'est pas une perte de temps pour la compétence professionnelle en art dentaire.

Il existe une autre raison pour laquelle on abandonne l'hypnose dans cet art: on ne l'emploie que pour produire l'analgésie;

or, ceci constitue une sérieuse limitation. L'analgésie, en effet, devrait être regardée comme un effet secondaire. L'anesthésie chimique doit toujours être à la portée de la main. Je n'affirme pas qu'elle doive toujours être employée, ni qu'elle doive l'être en quantité toujours uniforme. Le premier effet à obtenir c'est de diminuer la tension du patient et, en même temps, avoir la meilleure coopération possible de sa part. Et c'est un fait bien établi, actuellement, que l'hypnose est l'instrument psychologique idéal pour obtenir un tel effet. Dès lors, pourquoi ne pas s'en servir?

Tout d'abord, il ne constitue pas une perte de temps. On pourrait facilement le croire. En réalité, on sauve du temps, on assure de la continuité et une grande satisfaction s'ensuit et pour le dentiste et pour le patient. Le Dr Thomas W. Frost, dans son volume "HYPNOSIS IN GENERAL DENTAL PRACTICE" prouve excellemment ce point de vue. Je cite: "Un certain temps supplémentaire doit évidemment être employé, surtout dans les premières rencontres. La première induction et le conditionnement du patient, préparatoires au commencement du traitement dentaire, ne peuvent pas être hâtés. Il est habituellement préférable de consacrer au moins une session de vingt minutes à une demi-heure seulement pour préparer le patient et l'induire en hypnose. Le moment où le traitement peut commencer variera beaucoup, selon la suggestibilité du patient et les exigences du dentiste. La chose peut être possible en deçà de quelques minutes lors de la première induction. Au contraire, on peut avoir besoin de plusieurs sessions. Seule l'expérience dira à l'opérateur quand il peut commencer une obturation ou, peut-être, donner une injection. Habituellement, on peut assurer avec sécurité qu'à la seconde visite — après quelque temps encore employé à approfondir la transe — l'on peut commencer certain traitement simple. Si toutefois, dès la première session, le sujet réagit bien, et cela d'une manière évidente, le traitement peut alors

être commencé en cette première visite. Le temps dépensé lors de cette première session est habituellement remboursé aux visites subséquentes, alors qu'une transe rapide peut être induite — souvent en quelques secondes — et le dentiste a l'avantage de traiter un patient collaborateur et cela, peut-être, pour plusieurs années. La gratitude du patient, dans les cas où il y a eu succès, est aussi une grande récompense pour le peu de temps supplémentaire que l'on a donné. S'agit-il de patients très nerveux? Il y a avantage à promettre qu'aucun traitement dentaire ne sera tenté au moment de la première visite. Ceci donne confiance et conséquemment améliore la susceptibilité à l'hypnose. Evidemment, la promesse doit être tenue fidèlement, qu'importe l'aptitude dont le sujet puisse faire montre. Il est utile à cette première visite, cependant, de permettre au patient d'expérimenter la sensation des instruments dans sa bouche pendant qu'il est en état de transe. C'est le temps propice, par exemple, pour faire un examen des dents, même si cet examen a été fait auparavant. Quand il y a eu possibilité de réaliser une analgésie hypnotique, il y a eu économie de temps; car aux visites subséquentes cette analgésie peut être réinduite en quelques secondes." (FROST)

C'est donc mal conclure que de dire que, si l'hypnose a sa place en chirurgie dentaire, elle n'est pas faite pour les dentistes débordés de patients. Cette fausse conception vient du fait que, encore une fois, l'analgésie est mise de l'avant et que l'on croit que la transe la plus profonde doit être atteinte. Je suis pleinement d'accord avec le Dr Frost lorsqu'il conclut que: "faire de l'analgésie un gain secondaire, tout en dépensant suffisamment de temps pour chasser la nervosité, le manque de coopération, la crainte, etc, montre bien que l'hypnose est on ne peut plus utile même dans les cabinets dentaires les plus achalandés. Dans ses degrés les plus légers, l'hypnose peut être effective et il est reconnu que 90% de la population peut être hypnotisé à quelque degré."

Je me permets ici de vous énumérer, d'après FROST et BURGESS, les différents usages de l'hypnose en dentisterie. Nous pouvons les résumer de la façon suivante: 1 — détente ou relaxation; 2 — obtention de la coopération; 3 — élimination de la crainte; 4 — prévention de l'évanouissement; 5 — analgésie; 6 — amnésie; 7 — prémédication pour anesthésie générale; 8 — tolérance des appareils; 9 — prévention des hauts-le-cœur et de la nausée; 10 — contrôle de la salive; 11 — contrôle du saignement.

Il est d'autres avantages, mais ils sont inhérents aux cas spéciaux où l'élément psychosomatique doit être considéré. Doit-on les laisser au seul psychiatre? Dans l'*American Journal of Clinical Hypnosis*, de janvier 1960, volume 2, numéro 3, le Dr Milton Staples présente la question de la façon suivante: "Le suçage du pouce, l'onychophagie, le grincement des dents, voilà quelques-uns des problèmes dentaires avec probablement un fonds psychosomatique et où l'hypnose s'est avérée très utile. La question de savoir si ces problèmes font partie de la juridiction du dentiste ou du psychiatre est controversée. Plusieurs de ces mécanismes relèvent de mauvaises habitudes. Que le traitement doive être fait par le dentiste ou par une autre personne dépend de l'individualité du cas. L'histoire du patient et l'examen, voilà ce qui doit déterminer non seulement le type de traitement requis mais encore par qui il doit être fait. Un traitement psychiatrique peut ne pas être pratique pour les raisons variées; d'autre part, si ces patients ne sont pas traités par le dentiste, beaucoup ne seront pas traités du tout" . . . (Fin de la citation).

Pour ma part, j'ai eu quelque expérience de ces cas spéciaux. Un jeune homme de vingt ans me fut envoyé par un médecin pour pièces de prothèse complètes. Dès que j'eus commencé l'examen, il rendit son déjeuner et il ne fut possible de rien faire de plus. Le patient fut renvoyé avec invitation de revenir plus tard. Au cours de l'après-midi toutefois, il revint à mon cabinet, sur l'ordre de son médecin qui me

téléphona, affirmant que le patient avait été préparé pour l'examen et que je pouvais procéder au choix du porte-empreinte, etc. Comme je regardais par ma fenêtre, la réverbération me fit voir quelqu'un qui faisait des efforts visibles pour ne pas vomir à la minute qu'il jetait les yeux sur mon enseigne. Je reconnus mon patient et l'appelai. Il admit se sentir pire qu'au matin. Nous décidâmes alors d'une rencontre pour le soir même. Lorsqu'il revint, je commençai à l'induire en transe par fixation directe, et, dès que ses yeux fermèrent, je continuai avec la technique de la visualisation. Au bout de quinze minutes, je le trouvai dans une transe médium. Je tentai alors d'opérer la régression de l'âge afin de trouver la cause de ces hauts-le-cœur. Je lui expliquai que la vie peut se comparer à un volume, ayant dans son cas une vingtaine de pages. A mesure que nous tournions les feuilles du livre de sa vie, en commençant par les dernières pages, chaque feuille représentant une année entière de son existence, je lui demandai de laisser son inconscient indiquer quand la cause initiale de son haut-le-cœur avait commencé, et de le faire de la façon suivante: sans autre commentaire, il lèverait un doigt de la main gauche pour donner une réponse négative; ou bien un doigt de la main droite pour répondre affirmativement. C'était me servir du procédé du Dr Selter. Mon patient répondit ainsi négativement en levant le même doigt de la main gauche, jusqu'à ce que j'arrivai au chiffre six: pour sa sixième année d'âge il eut donc une réaction positive. Je lui demandai alors s'il objectait à me dire ce qui survint à ce moment de sa vie. Son doigt répondit négativement. Puis il me raconta qu'il pouvait se revoir dans le cabinet d'un dentiste et qu'il y avait là un autre médecin essayant de l'endormir avec le masque au gaz. Il résistait de toutes ses forces, criant et essayant de se sauver. Mais on le tenait ferme. Il se souvint même de l'anesthésiste qui disait clairement: "Donne-moi la fiole, je vais le canter" . . . Le pauvre petit patient se sentit bientôt

maîtrisé par les trois hommes: le médecin qui lui fichait sur le nez une serviette remplie de chlorure d'éthyle, le dentiste et son assistant qui lui tenaient les bras et les jambes. Bientôt il perdit conscience. Une fois éveillé, sa mère le traina dans les magasins de la ville, malgré qu'il se sentit encore faible. "Je voulais me débarrasser du sang dans ma bouche, dit-il, mais ma mère me défendit absolument de cracher, de sorte que je dus l'avaler. Il me fallut demeurer dans cette situation jusqu'au retour à la maison, à quelque vingt milles de Joliette." Il se souvint aussi de s'être senti étouffé sur la chaise dentaire avant de perdre conscience. Quatorze ans plus tard, ce patient, chaque fois qu'il voit l'enseigne d'un dentiste, doit instinctivement combattre une poussée de nausée. Il ajouta qu'il devait se marier dans un mois et s'inquiétait au sujet de ses dentiers. Je tâchai alors de lui faire comprendre que, lorsqu'un enfant n'a que six ans et doit se faire traiter, ce n'est pas toujours facile et que quelqu'un d'autre doit prendre une décision pour lui. Évidemment, en moi-même, je blâmais la mère et les médecins d'avoir employé une méthode aussi brutale. Je lui dis qu'il était parfaitement normal d'avoir agi comme il l'a fait, compte tenu de son âge et des circonstances. Mais maintenant, il a grandi, il est adulte et n'a donc plus besoin de se défendre de la même manière, puisqu'il comprend mieux et peut coopérer. Je lui donnai ensuite la suggestion de tenir ensemble son pouce et son index et qu'ainsi faisant, il sentirait sa gorge devenir anesthésiée, que je serais ensuite capable de prendre l'empreinte de sa bouche sans qu'il n'ait d'efforts à faire. Les suggestions post-hypnotiques habituelles furent données, et, la transe terminée, il me fut possible de prendre les deux empreintes et quelques jours plus tard, je pouvais facilement introduire dans sa bouche les deux dentiers. Il les porte depuis un an déjà, et cela, sans malaise. Pour moi, c'est un exemple frappant de la grande utilité de l'hypnose pour un dentiste . . . à moins, évidemment, que le

nouvel état marital de ce patient soit seul responsable de cette bonne allure des choses.

Maintenant, au moment d'aborder la question des statistiques, il y a un problème qui est souvent posé, et c'est celui du choix des sujets. Pour répondre à cette question je n'ai rien trouvé de mieux que l'intéressant travail de laboratoire cité dans le "Journal of Clinical and Experimental Hypnosis, juillet 1956". A l'Université de Harvard, on a fait une étude sur l'aptitude à l'hypnose en rapport avec les traits de la personnalité. L'opinion populaire était autrefois que les personnes suggestibles étaient classées parmi les personnes anormales, et ceci, avec Charcot. Les expériences de laboratoire et les études ont prouvé aujourd'hui et d'une façon définitive qu'il n'y a pas de relation entre l'aptitude à être hypnotisé et la suggestibilité avec l'anormalité et la tendance à la névrose; et sont de cet avis, les auteurs tels que: Davis, Husband, Bartlett, Messer et autres. Baumgartner conclut même que la suggestibilité est un trait de personnalité très désirable. Pour en arriver à cette conclusion, on a choisi dix-huit sujets, hommes et femmes, parmi des étudiants et des gradués qui n'avaient jamais été hypnotisés et l'on a suivi la même procédure pour tous, c'est-à-dire le même genre d'induction d'une durée de vingt minutes avec les mêmes tests de suggestibilité et les mêmes suggestions post-hypnotiques. Puis on utilisa l'échelle de susceptibilité hypnotique de Davis et Husband afin de classer par ordre les dix-huit sujets. Ensuite on leur fit passer le test de tempérament de Guilford-Zimmerman qui consiste en 300 items mesurant dix traits de la personnalité. D'après les coefficients de corrélation entre le rang de susceptibilité hypnotique et le rang des traits de tempérament, il en est résulté ceci, que:

- 1 — plus un sujet est apte à l'hypnose, moins il tend à la "contrainte de soi", c'est-à-dire qu'il tend à être plutôt "happy-go-lucky" que "serious-minded".

- 2 — plus un sujet est apte à l'hypnose, plus il tend à être "ascendant", c'est-à-dire que plus il tend à avoir des habitudes de "meneur", de chef, moins il tend à être soumis, hésitant.
- 3 — plus un sujet est apte à l'hypnose, plus il tend à être sociable.
- 4 — plus un sujet est apte à l'hypnose, plus il tend à être émotionnellement stable.
- 5 — plus un sujet est apte à l'hypnose, plus il tend à être objectif, c'est-à-dire que plus il tend à être "non-émotif", moins il tend à être hypersensible, renfermé, soupconneux.
- 6 — il ressort également une faible indication que plus un sujet est apte à l'hypnose, plus il tend à être cordial ou de bon voisinage.
- 7 — plus un sujet est apte à l'hypnose, moins il tend à être le type penseur, c'est-à-dire que moins il tend à être le type de réflexion et de méditation, plus vraisemblablement il est porté à une activité extérieure. (D'ailleurs White a trouvé une grande corrélation entre l'extraversion et la suggestibilité hypnotique.)
- 8 — la portée de la légère corrélation positive trouvée entre la suggestibilité hypnotique et la masculinité est discutable, puisque là l'échantillon ne comprenait que les chiffres de 11 hommes et 7 femmes.

Ces recherches tendent donc à confirmer une relation entre la suggestibilité hypnotique et les traits de caractère désirables et, si l'on arrive à confirmer par un échantillon plus numérique, on peut accepter, au moins pour la catégorie des étudiants, que le type "Roger-bon-temps" est facilement suggestible.

Quelle est donc, maintenant, la situation de l'hypnose en Amérique? Les quelques statistiques que j'ai pu recueillir vous en donneront, je l'espère, une idée assez juste. Voici d'abord les noms de quelques universités qui enseignent ouvertement l'hypnotique: celles de la Californie, de Boston, du Texas, Yale, Marquette, et probablement d'autres. Quelques équipes

de médecins, dentistes et psychiatres, s'occupent de promouvoir et d'enseigner l'hypnose aux membres des professions dentaire et médicale à travers les Etats-Unis et le Canada; on peut les comparer à des universités ambulantes. Les reconnues sont: SEMINARS ON HYPNOSIS FOUNDATION et l'AMERICAN ACADEMY of PSYCHOSOMATIC in MEDICINE and DENTISTRY. Parmi les grandes sociétés qui s'occupent de l'hypnose et des problèmes que pose une telle science, citons: l'American Society of Experimental Hypnosis, l'American Society of Psychosomatic Dentistry and Medicine et l'American Society of Clinical Hypnosis. Cette dernière comprend, outre ses membres, (plus de 2,000) 41 sociétés composantes et huit affiliées (hors du continent). C'est la plus considérable aux Etats-Unis et le siège social est à Chicago. L'American Society of Psychosomatic groupe environ 600 membres, et le siège social est à Buffalo. Au Canada, les deux sociétés d'importance sont à Toronto et à Montréal. Cette dernière groupe 150 médecins et dentistes. Des cours se donnent aux Universités par des professeurs américains et quelquefois dans des hôpitaux tels que: Sacré-Coeur, St-Michel et Ste-Jeanne d'Arc.

Quant à la pratique privée de l'hypnose dans nos cabinets, je vous citerai, comme exemple, les statistiques du Dr Papermaster, D.D.S. de New York, et parus dans le "Year Book of Dentistry" de 1960. Entre juin 1948 et décembre 1954, ce confrère a traité sous hypnose environ 1840 patients de différents âges, c.-à-d. enfants et adultes, et le pourcentage de succès fut de 95.07%. Durant quatre autres années, environ 2,000 furent traités sous hypnose et le total de ses insuccès fut en bas de 2%. Le plus jeune patient traité durant cette date n'étant âgé que de 2 ans et 7 mois et le plus âgé étant de 84 ans.

Voilà donc, Messieurs, un rapide coup d'oeil de ce qui se fait au Canada et aux Etats-Unis dans le domaine de l'hypnose et les conclusions pratiques que j'ai pu retirer d'une expérience de cinq années et qui me semble de plus en plus promet-

teuse. C'est ma conviction personnelle que le dentiste vraiment soucieux de progrès ne saurait écarter un tel outil psychologique.

SUMMARY

The general principles of hypnosis are reviewed for the benefit of readers who may not be closely acquainted with the subject. Hypnosis is a psychological procedure which should be primarily used for the relaxation of the patient. Its failures are due to the fact that dentists expect

too much from it and think that this method will produce profound analgesia in every patient. Drawing from factual experience, the author presents certain rules in respect to the employment of hypnosis as well as a classification of susceptible and insusceptible patients.

Les principales revues américaines sont les suivantes:

The Journal of the American Soc. of Psychosomatic Dentistry and Medicine.

The American Journal of Clinical Hypnosis.

Journal of Clinical and Experimental Hypnosis.

Journal of Hypnosis & Psychology in Dentistry,

etc.

Les volumes qui semblent les meilleurs sur ce sujet pour les dentistes sont les suivants:

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| Hypnosis in General Dental Practice (par Thomas FROST) | (The Year Book Publishers, Inc. Chicago) |
| Clinical Applications of Hypnosis in Dentistry (par I. SHAW) | (W. D. Saunders Co. Philadelphia) |
| Clinical Applications of Suggestions and Hypnosis (W. HERON) | (Charles C. Thomas, Springfield, Illinois) |
| Hypnodontics (A. A. MOSS) | (Dental Items of Interest Publishing Co, London, U.S.A.) |
| Experimental Hypnosis (L. M. LECRON) | (The Macmillan Co. New York) |
| General Techniques of Hypnotism (André WEITZENHOFER) | (Grune & Stratton, N.Y.) |
| Hypnosis and Its Therapeutics Applications (Roy DORCUS) | (McGraw Hill Book Co. N.Y.) |

L'antibiothérapie en périodontie*

par Roland Gendron, B.A., D.D.S., Montréal

L'antibiothérapie n'a jamais été et ne sera jamais un traitement "per se" des affections périodontaires. La multiplicité des facteurs étiologiques en cause, dans toute pathologie buccale, ne nous permet jamais d'envisager une thérapeutique univalente; l'antibiothérapie ne fait pas exception.

Les périodontistes sont généralement d'accord pour affirmer qu'environ 80% des pathologies périodontaires consistent en des périodontites simples dont le traitement vise presque exclusivement à éliminer les causes locales qui les produisent. Je dis: presque exclusivement, parce que l'état général du patient, quel qu'il soit, joue toujours un rôle certain dans l'incidence de la pathologie locale, quelle qu'elle soit. Il se trouve que, dans la plupart des cas, il suffit d'éliminer les facteurs locaux pour que la physiologie locale soit rétablie, parce que, du même coup, nous redonnons à la résistance du patient le pouvoir de défense qui, à lui seul, ne suffisait pas à prévenir la pathologie ou à l'éliminer. Il ressort donc, de ceci, qu'aucune pathologie ne peut être le résultat unique de facteurs locaux seulement et vice-versa.

Dans quelle mesure les facteurs locaux et généraux contribuent-ils à l'incidence de telle ou telle pathologie buccale? Voilà la question que doit résoudre le dentiste dans chaque cas d'affection périodontaire. Autant avouer tout de suite que malgré les connaissances considérables accumulées depuis un certain nombre d'années, en pathologie buccale, nous sommes loin d'avoir des solutions à tous nos problèmes.

Mais comme, entre-temps, nous sommes appelés à traiter d'innombrables affections

périodontaires, essayons d'établir une ligne de conduite qui nous permette de rendre à nos patients un service maximum, puisque c'est le but que nous poursuivons tous.

J'ai mentionné, plus haut, qu'environ 80% des affections périodontaires répondent à des thérapeutiques locales. Ces dernières consistent, comme vous le savez, à éliminer tous les facteurs susceptibles de perturber la physiologie des tissus périodontaires: 1—Les irritants, chimiques, physiques et mécaniques. Et à ce chapitre, qu'il me soit permis d'insister sur l'importance du curetage subgingival. L'expérience nous a démontré que le dentiste, en général, ne tire pas complètement parti de cette importante phase du traitement parce qu'il manque d'instruments appropriés à cette fin et aussi, malheureusement, parce qu'il n'en réalise pas toute l'importance. 2—Les facteurs qui tiennent à la fonction. C'est, évidemment, toute la dentisterie restaurative qui vise à maintenir ou à rétablir la physiologie normale de tout l'appareil dentaire.

Voilà pour les facteurs locaux. Nous pourrions nous étendre considérablement sur la question, mais tel n'est pas l'objet de cette communication.

Considérons plutôt l'autre 20% des affections périodontaires dont les causes, d'ordre général, sont souvent obscures, sinon inconnues en tout ou en partie.

Il va sans dire que, dans ces cas, la première préoccupation du praticien consiste à pousser le diagnostic à la limite des moyens connus: histoire du cas, symptômes locaux et généraux, examen général, tests de laboratoire, etc. Retenons bien que rien ne peut remplacer le diagnostic précis. Mais il arrive souvent, dans ces cas, qu'il nous soit difficile ou impossible

* Communication présentée à l'occasion du Congrès de l'Association Dentaire de la Province de Québec, tenu à Québec en mai 1960.

de l'établir complètement. Il nous faut pourtant intervenir pour apporter au patient sinon la guérison complète et définitive de la pathologie en cause, du moins un soulagement à sa pathologie et l'élimination d'un ou plusieurs symptômes. C'est ici qu'interviennent les antibiotiques. J'ai mentionné précédemment que la grande majorité des affections périodentaires répondaient à des thérapeutiques locales. Il est donc évident que, dans ces cas, l'antibiothérapie est non seulement inutile, mais contre-indiquée à cause des sensibilisations toujours possibles. Elle me paraît cependant justifiée dans les cas suivants:

I—Infections aiguës. Nous savons tous que certaines infections, comme l'infection de Vincent, répondent bien aux antibiotiques. Il est certainement possible de réduire les symptômes de cette infection sans le secours d'antibiotique; mais, pas aussi facilement et efficacement. Nous nous devons d'apporter au patient un soulagement rapide et prévenir aussi, dans bien des cas, des infections connexes. Il n'y a d'ailleurs pas beaucoup de discussion sur l'emploi des antibiotiques dans les infections aiguës. Tous s'accordent pour les accepter comme une aide incomparable sinon une nécessité.

II—Infections sub-aiguës. Nous avons tous traité des affections périodentaires connexes et consécutives à des infections de la gorge, par exemple. Or, une intervention chirurgicale sur les amygdales ou les cryptes amygdaliennes n'est pas toujours indiquée, surtout chez les adultes; et nous devons de toute façon accepter la décision du laryngologiste, sans pour cela négliger la condition buccale de notre patient qui requiert une intervention immédiate. L'antibiothérapie est alors indiquée, en attendant de pouvoir éliminer le foyer principal de l'infection.

III—Infections chroniques. La plus répandue est sans aucun doute l'alvéo-

lyse. Et, ici, qu'il me soit permis de ne pas faire de distinction entre l'alvéolyse suppurative et l'alvéolyse qu'on a convenu d'appeler sèche. Les deux formes sont soumises à une activité bactérienne certaine, quoique d'une intensité différente. Le facteur bactérien y est constant et il influence le cours de la pathologie dans la mesure où le milieu local et la résistance générale du patient le lui dictent. D'où, en principe, les possibilités de l'antibiothérapie dans le traitement de ces infections chroniques.

L'infection est-elle primaire ou secondaire? Nul ne saurait le dire d'une façon certaine et je laisse le soin aux bactériologistes et aux biochimistes de résoudre la question. Pour moi, qui suis un clinicien comme la grande majorité d'entre nous, cette question n'a qu'un intérêt académique. Les résultats cliniques sont le critère de nos succès ou de nos échecs. Le médecin en face d'une pneumonie ne se demande pas si l'infection est primaire ou secondaire; il administre l'antibiotique qu'il sait être efficace.

Dans le cas qui nous intéresse, c'est-à-dire l'alvéolyse, nous devons bien admettre que, jusqu'à maintenant, les antibiotiques usuels ne nous ont pas été d'un grand secours. Et, dans certains cas, leur administration a même présenté des inconvénients considérables. Mais, récemment, un autre antibiotique a fait son apparition sur le marché, qui, à notre avis, est appelé à rendre de grands services aux dentistes. C'est la Spiramycine. Nous avons eu le privilège de poursuivre des recherches cliniques sur les effets de cet antibiotique. Ces recherches cliniques ont porté sur près de trois cents cas, variant de la gingivite marginale la plus simple jusqu'à l'alvéolyse chronique, ainsi que sur diverses stomatites associées ou non à l'alvéolyse. Les résultats sont non seulement encourageants, mais, à notre avis, ouvrent de nouveaux horizons dans le traitement des paradentoses, en particulier, et des infections de la cavité buccale en général.

La Spiramycine a été isolée en France en 1954. On a décrit cette substance comme un "streptomycetes ambofaciens" qui produit une antibiose originale, surtout sur les gram-positifs. Son spectre est du type "moyen" et, pour cette raison, ne présente pas les inconvénients des antibiotiques à spectre large ou étroit. Son administration par voie orale constitue un immense avantage pour le dentiste. Il est très peu toxique et bien toléré par les muqueuses stomacales et intestinales. Jusqu'à maintenant, aucune réaction "croisée" n'a pu être observée avec d'autres antibiotiques. Il reste possible, toutefois, qu'avec le temps, nous en obtenions, surtout avec le groupe de l'erythromycine qui possède un spectre bactérien "voisin" de la Spiramycine. Son pouvoir de fixation sur les cellules vivantes semble expliquer sa puissante action bactéricide; on la retrouve dans le courant sanguin, alors que les autres antibiotiques n'y sont plus décelables. Il agit sur des souches de staphylocoques et streptocoques résistantes à d'autres antibiotiques.

Comme nous l'avons mentionné précédemment, l'antibiothérapie n'a jamais joui d'une grande popularité dans le traitement des affections périodentaires. Et pour cause. L'avènement de la Spiramycine nous rappelle, cependant, que la science des antibiotiques est encore très jeune. Nous ne faisons véritablement que commencer à explorer le monde merveilleux des mycètes. Il est maintenant établi qu'un nouvel antibiotique est isolé, en moyenne, tous les trois ans; et il ne fait aucun doute que de très nombreux autres viendront s'ajouter à la liste déjà importante de ces substances.

À la première réaction qui en fut une d'émerveillement devant les propriétés extraordinaires des antibiotiques, a succédé la réaction normale de prudence que leur administration impose, à cause des réactions indésirables qu'elles peuvent provoquer. Et le dentiste, comme le médecin, et sûrement le dentiste plus que le médecin, sont forcément devenus cons-

cients de ces dangers. Et même le public qui, au début, réclamait l'antibiotique comme une panacée universelle, est maintenant au courant des réactions toxiques possibles.

Dans ces conditions, le problème devient alors, pour les grands laboratoires, d'isoler de nouveaux antibiotiques dont l'activité biologique serait égale ou supérieure aux produits déjà connus sans présenter les mêmes inconvénients. La Spiramycine est un de ceux-là.

La flore microbienne de la bouche est complexe; et nous la connaissons mal. Parce que nous la connaissons mal et aussi à cause de la pénurie de moyens que nous avons eus de la combattre efficacement, jusqu'à maintenant, nous avons presque choisi de l'ignorer; du moins, en pratique. Or elle ne peut être ignorée. Les thérapeutiques de soutien ne résoudront jamais seules tous nos problèmes périodentaires.

En lisant les publications européennes sur la paradentose, nous avons parfois l'impression que les stomatologistes d'outre-mer attachent une importance exagérée au microbe. Nous ne croyons pas que ce soit le cas. Ils ont, depuis Pasteur, une tradition que nous ne comprenons pas toujours. Ils savent, et ils l'ont appris avant nous, que le microbe n'est pas l'unique facteur de la pathologie. Mais ils en reconnaissent l'importance. En paradentose, nous savons aussi que le microbe ne précipite pas seul la maladie, mais il l'amplifie et l'aggrave au point de produire les symptômes de dégénérescence que nous connaissons tous. Et, comme tout processus de régénération est impossible dans un parodontium infecté, notre seul espoir de traiter avec succès la paradentose est d'éliminer l'infection. L'antibiotique nous paraît donc devoir être logiquement le moyen le plus sûr d'y arriver. Les résultats cliniques obtenus avec la Spéramycine appuient cette conviction.

S'il est vrai qu'en fortifiant le milieu on arrive à éliminer le microbe, il est également certain qu'en éliminant le

microbe, on permet au milieu de retrouver le pouvoir naturel de défense qu'il avait perdu. La médecine moderne nous en donne d'innombrables exemples tous les jours. Or, la paradentose appartient au domaine de la médecine et, sauf erreur, devrait être soumise aux mêmes lois biologiques que toute autre pathologie.

Nous sommes donc à la recherche d'un antibiotique dont (1) le spectre bactérien possède une action "élective" sur la flore pathogène de la bouche, quelle qu'elle soit; (2) qui n'est pas toxique; (3) qui est bien toléré par l'estomac et l'intestin; (4) qui ne perturbe pas la flore utile que nous voulons conserver intacte; (5) qui n'offre pas de résistance spécifique ou croisée avec d'autres antibiotiques; (6) qui enfin demeure actif sur les organismes résistants aux autres antibiotiques.

Jusqu'à maintenant, il est incontestable que la Spiramycine est l'agent bactéricide

qui se rapproche le plus de ces normes. Sans être une panacée, elle constitue une arme nouvelle dans l'arsenal plutôt limité de nos thérapeutiques et ouvre des horizons nouveaux dans le traitement des paradentoses par l'antibiothérapie.

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SUMMARY

The aetiology of peridontal disease is based on local and systemic factors. The treatment of infection in the supporting tissues of the teeth is one aspect of the management of periodontal disease. Acute, sub-acute and chronic phases of infection respond to antibiotic therapy which is considered an adjunct to other methods of treatment. The antibiotic agent selected must possess certain specified properties and the author considers spiramycine as the antibiotic of choice in particular instances.

Nouvelles du Corps Royal Dentaire Canadien

Le brigadier Baird assiste à un colloque

Le brigadier K. M. Baird, directeur général des Services dentaires, a assisté au colloque du Directeur général du Service de santé sur les effets biologiques des engins nucléaires, tenu à Camp Borden du 16 au 18 novembre.

Promotion du major W. W. Anglin

Le Quartier-général de l'Armée a annoncé que le major W. W. Anglin a été promu au grade de lieutenant-colonel à compter du 1er novembre dernier.

Le lieutenant-colonel Anglin est né à Windsor (N.-E.). Il a fait ses études secondaires au Mount Allison Academy de

Sackville (N.-B.) et il a obtenu son doctorat en chirurgie dentaire à l'Université McGill en 1944. Il s'est alors enrôlé dans le Corps dentaire et il a servi dans les 27e et 50e Compagnies jusqu'en 1947, date à laquelle il a été accepté dans l'Armée régulière et envoyé dans la Région militaire de l'Est. Depuis 1950, il a occupé un certain nombre de postes dans la Région militaire du Centre, excepté en 1952, alors qu'il a servi en Corée pendant une année. Il suit actuellement un cours sur les maladies périodentaires au U. S. Naval Dental School de Bethesda (Maryland) et, à son retour, il reprendra son poste d'officier dentiste supérieur au Camp Petawawa. Le lieutenant-colonel Anglin est marié et père d'un enfant.

Nomination de deux officiers de laboratoire

Pour la première fois depuis la seconde guerre mondiale, le Corps dentaire compte des officiers de laboratoire dans son effectif. En effet, les sous-officiers brevetés de 1re classe, J. W. Lincoln et A. Van Ryssel, ont été promus au grade de capitaine et ils occupent ce poste depuis les 22 et 24 novembre respectivement. Le capitaine Lincoln, qui est originaire de Moose-Jaw et qui compte déjà 18 ans de service dans le Corps dentaire, sera affecté au quartier-général de la 13e Compagnie dentaire, à la station de l'ARC de Trenton. Le capitaine Van Ryssel, qui est né à Oakbank (Man.) et qui sert dans l'Armée depuis 1940, restera à l'Ecole du Corps dentaire du Camp Borden (Ont.).

Le sous-officier breveté de 1re classe E. L. Proudfoot est promu officier

Le Quartier-général de l'Armée a annoncé que le sous-officier breveté de 1re classe, E. L. Proudfoot, a été promu au grade de lieutenant, le 24 novembre dernier.

Le lieutenant Proudfoot, qui est officier d'administration, est né à Saint-Bernardin (Ont.) et il s'est enrôlé dans le Corps dentaire en juin 1942. Il travaille actuellement à la Direction des services dentaires et il demeure à Ottawa avec sa femme et ses deux enfants.

Nouvel officier au Corps dentaire

Le docteur J.-P. Houle s'est enrôlé dans le Corps dentaire après avoir exercé sa profession à Havre-Saint-Pierre (P. Qué.) pendant quelque temps. Il a obtenu son brevet d'officier à titre de capitaine, le 7 novembre dernier.

Le capitaine Houle est né à Drummondville. Il a étudié au Séminaire de Chambly, de 1945 à 1949, puis au Collège Saint-Laurent de Montréal, où il a obtenu son B.A. en 1953; l'Université de Montréal lui a décerné un doctorat en chirurgie dentaire en 1958. Le capitaine Houle a été affecté à la 14e Compagnie dentaire, au Camp Shilo.

Cours

Les officiers dentistes suivants ont suivi des cours dernièrement. Ce sont:

Le major P.-E. Fafard, de la station de l'ARC de Clinton (Ont.), un cours de chirurgie buccale à l'Université du Michigan, à Ann-Arbor (Michigan).

Le capitaine J. J. N. Wright, de l'Ecole du Corps dentaire de Camp Borden, un cours d'endodontie à l'Université du Michigan, à Ann-Arbor (Michigan).

Le capitaine Scott ouvre son propre bureau

Le capitaine J. B. Scott vient d'ouvrir son propre bureau à Camp Borden, après avoir servi pendant huit ans dans le Corps dentaire au Canada et en Europe.

Nouvelles de l'Association

La province de Saskatchewan organise un système de distribution de comprimés de fluor

Treize municipalités de Saskatchewan fluorurent l'eau de leurs aqueducs pour prévenir la carie dentaire. Le Ministère de la Santé publique vient d'établir un système par lequel les enfants qui vivent sur des fermes, où l'eau n'arrive pas par un aqueduc, pourront prévenir la carie. Les officiers sanitaires des districts, dès maintenant, distribuent des comprimés de fluor aux enfants d'âge pré-scolaire avec la prescription d'en prendre un par jour.

C'est l'Honorable J. Walter Erb, Ministre de la Santé publique, qui a annoncé cette mesure pour combattre directement les maladies dentaires des gens de la campagne; des fonds spéciaux ont été votés à cette intention. Ce système est sous la direction du docteur A. E. Chegwin, directeur de l'hygiène dentaire du Ministère. Le docteur Chegwin a déclaré que le gouvernement avait acheté un lot de 2,500,000 comprimés et que leur consommation va de pair avec la collaboration des parents.

L'efficacité de ce système dépend des parents des enfants qu'on veut protéger. Les parents peuvent se procurer gratuitement ces comprimés à l'unité sanitaire de la région où ils vivent et voir à ce que chaque enfant d'âge pré-scolaire prenne un comprimé par jour. Les mères enceintes peuvent se procurer de ces comprimés depuis deux ans et cette distribution continue. Les officiers sanitaires de la région et leur personnel incluent la distribution de ces comprimés dans leur programme de soins maternels et infantiles. On espère que cette expérience de Saskatchewan fournira des renseignements précieux sur l'efficacité des comprimés de fluor.

Honneur pour le docteur S. J. Phillips

Le docteur Stanley J. Phillips, qui a été président du Comité des Finances de l'A.D.C. durant plusieurs années, vient d'être honoré par la ville d'Oshawa.

La Commission scolaire d'Oshawa, Ontario, à une assemblée récente, vient de donner le nom du docteur S. J. Phillips à une école qui s'appelait jusqu'alors la North Simcoe

Public School. Plusieurs membres de la famille Philipps se sont occupés de cette école et le docteur Philipps a fait partie durant de nombreuses années de la Commission scolaire. La résolution qui changeait le nom de l'école se lisait en partie comme suit: "il convient de donner à une école le nom d'un citoyen qui, pendant vingt ans, s'est dévoué bénévolement à la cause de l'enseignement de sa municipalité pour que son nom serve comme exemple de dévouement altruiste pour le bien de ses concitoyens."

Nouvelles de la Fédération dentaire internationale

L'assemblée générale de la F.D.I. a unanimement sanctionné l'élection, comme membre régulier, de la Société dentaire d'El Salvador; le nombre total des membres revient donc à 53. La démission, pour raisons pécuniaires, de l'Association dentaire de toute l'Inde avait baissé le nombre à 52. La Fédération a aussi sept membres correspondants. Les membres adhérents, au 2 juin 1960, se chiffraient à 3,711 et ces membres se recrutent dans 37 pays; 796 dentistes qui étaient membres en 1959 n'ont pas encore renouvelé leur adhésion. Le nombre des membres du Canada (50) est petit, si on le compare à celui d'autres pays. Le docteur Obedt Moen, des Etats-Unis, a été réélu président pour un second terme.

L'assemblée générale, pour réaffirmer son appui à la fluoruration, a adopté la résolution suivante:

"Considérant que des gouvernements et des municipalités de toutes les parties du monde reconnaissent, grâce aux recherches, la sûreté, l'efficacité et la manipulation facile de la fluoruration de l'eau de consommation pour réduire l'incidence de la carie dentaire, pour en faire bénéficier la population de leur pays et leurs citoyens; "Considérant que la Commission d'Enquête constituée par l'Organisation Mondiale de la Santé a recommandé l'adoption de la fluoruration dans le monde entier; "Il est résolu que la F.D.I. recommande aux autorités publiques la fluoruration de l'eau de consommation comme la mesure de santé publique la plus efficace qu'on connaisse aujourd'hui pour abaisser d'une façon sûre et économique l'incidence de la carie dentaire, surtout chez les jeunes enfants."

Modifications de certains comités de l'A.D.C.

Les noms de plusieurs comités de l'A.D.C. ont été changés à la dernière réunion annuelle, à la suite d'une révision des règlements de l'Association. Les comités permanents sont devenus des conseils et les comités spéciaux, des comités.

Conseils: Constitution et Règlements, Enseignement, Etiquette professionnelle,

Journalisme (autrefois Publication), Législation, Hygiène publique, Recherches et Exécutif.

Comités: Services auxiliaires, Congrès, Immeuble du Secrétariat, Services dentaires (autrefois Etude sur l'Assurance-Santé), Services hospitaliers, Nécrologie, Nomenclature, Nomination, Spécialistes et Spécialisation, Concours du Mémorial de Guerre.

Les nominations aux conseils et aux comités, pour assurer un roulement de nouveaux membres avec de nouvelles idées et aussi une certaine continuité, sont faites pour un terme de trois ans, renouvelable une fois, le tiers des membres de chaque groupe se retirant chaque année. Cette façon de faire existait pour certains comités; c'est maintenant un règlement général. Les membres des conseils et des comités sont élus à la réunion annuelle par le Conseil des Gouverneurs.

Visites du Président

La visite annuelle du Canada par le président et le secrétaire a commencé vers l'est le 24 novembre par la Clinique d'Hiver de l'Académie de Dentisterie de Toronto.

Les docteurs Whyte et Gullett se sont ensuite rendus à Halifax, le 25 novembre, à Charlottetown, le 28 novembre, à Québec, le 29 novembre, à St-Jean, N.-B., le 30 novembre et à St-Jean, T.-N., les 2 et 3 décembre.

Autorisation de former un comité national de recrutement

On a approuvé, comme le recommandait le docteur W. G. McIntosh dans son rapport comme président au Conseil des Gouverneurs, la formation d'un comité spécial de recrutement. La résolution qui sollicitait la formation de ce comité demandait aussi aux provinces de former des comités semblables. Quelques provinces l'ont déjà fait et des comités ont déjà commencé leur travail.

Le docteur McIntosh disait dans son rapport que "le recrutement de candidats de qualité constitue un des problèmes majeurs de la profession." La résolution autorisant la formation d'un comité national de recrutement déclarait: "les facultés dentaires ne forment pas des dentistes en nombre suffisant pour répondre aux demandes ou aux besoins d'une population qui augmente sans cesse." La résolution ajoutait: "La profession surtout a la responsabilité de recruter des dentistes."

Membres de la Fédération dentaire internationale

Les dentistes canadiens sont invités à devenir membres adhérents de la Fédération dentaire internationale pour nouer des contacts avec des dentistes d'autres pays, pour se tenir au courant des progrès réalisés par la science dentaire dans le monde entier, pour assister aux congrès annuels et à des congrès spéciaux organisés dans des pays

étrangers, pour être représentés au niveau international dans le domaine de la santé par l'Organisation Mondiale de la Santé.

Les membres adhérents de la F.D.I. reçoivent tous les mois le Journal Dentaire International, les Lettres de Nouvelles de la F.D.I., un diplôme et une carte de membre. La cotisation annuelle est de \$15.00 (fonds canadiens). On s'adresse au docteur Don W. Gullett, trésorier national, 234 rue St-Georges, Toronto, Ontario.

La bibliothèque de l'A.D.C. a dix ans

La publication du nouveau catalogue de la bibliothèque (actuellement sous presse) souligne le dixième anniversaire de la bibliothèque dentaire au Secrétariat de l'A.D.C. Cette bibliothèque rend de grands services, si l'on en juge par la circulation toujours grandissante des volumes et des revues et par sa stature physique qui prend de plus en plus d'importance.

Il y a environ 3,000 volumes sur ses rayons, comprenant 600 volumes reliés de périodiques. La bibliothèque reçoit quelques 175 revues venant de toutes les parties du monde. Elle accueille aussi une vingtaine de publications médicales et une dizaine consacrées à l'hygiène publique. Ces revues, en plus des lettres-nouvelles, des rapports annuels et divers bulletins entretiennent la section des références.

On s'est surtout appliqué à constituer une collection de littérature dentaire moderne. Les rayons contiennent des séries complètes de volumes publiés depuis dix ans. Il y a quelques volumes rares qui lui ont été offerts par des dentistes ou d'autres bibliothèques. La bibliothèque de l'A.D.C. a reçu, quand elle a été fondée, plusieurs collections de volumes que l'Association dentaire américaine avait en double dans sa propre bibliothèque. De son côté, la bibliothèque de l'A.D.C. a aidé d'autres bibliothèques dentaires en leur offrant des volumes ou des journaux.

Des membres de l'Association ont offert à la bibliothèque des dons généreux de livres ou de revues, dont quelques-uns avaient une grande valeur historique. Jusqu'à tout récemment, le budget de l'A.D.C. ne comptait pas d'octroi pour la bibliothèque, parce que les souscriptions de la part des dentistes du Canada étaient suffisantes pour couvrir ses dépenses. Ces dons en argent sont utilisés surtout à l'achat de volumes et ces sommes sont déductibles pour fins d'impôt sur le revenu.

La direction de la bibliothèque est confiée à trois fiduciaires: le président et le secrétaire de l'A.D.C. et un nouveau président qui est le docteur Edward R. Bilkey, de Toronto. La bibliothèque a été favorisée d'avoir retenu les services de Mlle Colette Gagnon, qui agit comme bibliothécaire depuis le début. Les officiers de l'Association et Mlle Gagnon espèrent que la bibliothèque va

continuer à prendre de l'ampleur de façon à ce qu'elle puisse continuer à rendre de plus en plus service aux membres de l'Association dentaire canadienne.

Revision de l'échelle des honoraires des Services de Santé pour le Nord-Ouest et les Indiens

Le Ministère de la Santé nationale et du Bien-Etre social a autorisé une nouvelle liste d'honoraires pour la Division des Services de Santé pour le Nord-Ouest et les Indiens. La profession dentaire, depuis longtemps déjà, songeait à établir une politique qui aurait servi aux praticiens privés pour traiter les Esquimaux et les Indiens. La division invite les Indiens et les Esquimaux à s'occuper personnellement de se faire traiter. C'est pourquoi seuls ceux qui vivent dans des régions isolées ou qui sont pauvres et qui ne peuvent pas se faire traiter ont droit à des traitements payés par le gouvernement. Dans plusieurs régions du Canada, les enfants en bas de dix-sept ans et qui ont droit à ces services gratuits reçoivent des traitements correctifs et préventifs de la part des dentistes qui sont à l'emploi de la division des Services de Santé pour le Nord-Ouest et les Indiens. Aux autres endroits, la Division demande à des praticiens privés de prodiguer aux enfants et à des adolescents dont ne peuvent s'occuper les dentistes de la Division et qui ont droit à des traitements de base. Les adultes indigents ne peuvent pas recevoir des traitements autres que ceux qui sont nécessités par la présence de douleur ou d'infection. Ces traitements de base ne peuvent pas dépasser vingt-cinq dollars, par année, pour chaque enfant de dix ans ou moins, à moins d'avoir été sanctionnés au préalable par la Division. Il en est de même pour tout autre patient ayant droit à ces traitements.

La livraison de décembre du Journal de l'A.D.C. contenait l'historique et un éditorial sur cette question.

Election aux Comités et aux Conseils

Plusieurs nouvelles figures, depuis la dernière réunion annuelle de l'A.D.C., font partie de ses comités et de ses conseils.

L'Exécutif se compose du président, le docteur J. P. Whyte, de Swift Current, Saskatchewan; du président-élu, le docteur William Miller, de Vancouver; du président-sortant-de-charge, le docteur W. G. McIntosh, de Toronto; du docteur Rémy Langlois, de Québec; du docteur James Zimmerman, de Calgary; du docteur M. V. J. Keenan, de Sudbury et du docteur P. S. Christie, de Halifax. Le docteur George M. Dewis, de Halifax, a été élu trésorier.

Le docteur F.-A. Fernet, de Saskatchewan, a été nommé président du Comité du Congrès pour 1961 et le docteur L. F. Marshall, de Vancouver, président du Comité du Congrès pour 1962.

Le docteur Frank McCombie, de Victoria, C.-B. est le nouveau président du Conseil d'Hygiène dentaire publique, en remplacement du docteur H. K. Brown, d'Ottawa.

Le docteur James D. Purves, de Toronto, devient président du Conseil de Journalisme, qui était autrefois le Comité de Publication et dont était président le docteur Frank Martin, de Toronto. Le docteur A. H. Crowson d'Ottawa préside le Conseil de Législation, dont le président était le docteur A. W. Grace. Le docteur E. R. Bilkey, de Toronto, devient président des fiduciaires de la bibliothèque depuis la démission du docteur T. H. Graham. Plusieurs changements se sont produits au sein des comités et des conseils. La liste complète des présidents des conseils et de comités paraît dans toutes les livraisons du Journal de l'Association dentaire canadienne.

Nomination des membres du comité national de recrutement

Un comité national de recrutement, a été formé, selon le désir du Conseil des Gouverneurs de l'A.D.C. exprimé au cours de la dernière réunion générale. Le président de ce comité est le docteur Wesley J. Dunn, ancien rédacteur du Journal et maintenant secrétaire-registraire du Collège Royal des Chirurgiens-Dentistes d'Ontario.

Les membres du Comité sont: James B. O'Brien, de St-Jean, N.-B. membre du Conseil d'Enseignement dentaire; John M. Chamard, de Montréal; Roy G. Ellis, doyen de la faculté de chirurgie dentaire de l'Université de Toronto; R. R. McIntyre, de Calgary.

Le Comité de Recrutement se réunira au Secrétariat, à Toronto, les 5 et 6 janvier.

Deuxième réunion de secrétaires des Collèges

Les secrétaires-registres des Collèges des provinces ont été invités à se réunir au Secrétariat de l'A.D.C. les 9 et 10 janvier. Le Conseil des Gouverneurs de l'A.D.C. a demandé cette réunion, après avoir été mis au courant des avantages qu'avait amenés la première réunion tenue en janvier dernier.

Le but principal de ces réunions est de favoriser des échanges de vues et des discussions sur des problèmes communs à tous les registres des Collèges provinciaux. Une gamme variée de sujets, tels que l'octroi des licences, les relations extérieures, le recrutement et la certification des spécialistes formeront l'agenda de cette assemblée. L'assemblée groupera des représentants de chaque province et d'autres associations intéressées à ces problèmes.

Bonnes relations extérieures

Les lignes qui suivent paraissent dans un éditorial de la livraison d'octobre du "RCDC

Quarterly", qui est l'organe du Corps Royal Dentaire Canadien. Cet article avait comme titre: "De bonnes relations extérieures donnent beaucoup, coûtent peu."

"De bons services dentaires jouent un rôle important, mais ce n'est pas tout; il faut qu'ils soient accompagnés d'un esprit d'amitié, de sympathie et de sincérité envers le patient . . . Un patient satisfait est certes un atout précieux dans le domaine des relations extérieures. Un officier dentaire qui, sans s'attarder à la difficulté que présente un cas et sans se soucier de la dose de patience qu'il doit exercer, porte son regard non pas sur l'immédiat, mais sur l'impression favorable ou défavorable qu'il a créé de lui chez son patient, cet officier se conduit d'une manière digne du CRDC."

La réunion annuelle a eu des échos

L'A.D.C., après la réunion d'Ottawa, a reçu environ 200 découpures de journaux considérables ou de moindre importance publiés dans toutes les régions du Canada. Les articles les plus nombreux traitaient des conférences, des cliniques et des expositions. Le discours de l'Hon. Diefenbaker, prononcé au dîner de l'Association dentaire de l'Est de l'Ontario, venait en seconde place (avec mention dans la revue Time). De même, le colloque sur "Les effectifs de la profession dentaire au Canada" était souvent mentionné. D'autres articles avaient été rédigés sur l'hygiène dentaire, les recherches, l'élection du président, la nomination d'un membre honoraire, les événements sociaux. La radio et la télévision ont donné d'excellents comptes-rendus des séances du Conseil des Gouverneurs et du Congrès.

La profession dentaire, en tenant ses congrès dans une ville différente chaque année, reçoit en retour une excellente publicité. Cette réclame se centre surtout dans les journaux, à la radio et à la télévision de la région où le Congrès a lieu, mais le Bureau des Renseignements au public, grâce aux découpures de journaux, se rend compte que tout le pays est renseigné sur ces activités.

Les courts métrages sont prêts

Les copies d'une nouvelle série de trois courts métrages de 60 secondes pour la télévision seront bientôt remises aux postes de télévision de tout le Canada. Les sujets de ces courts métrages, qui ont été réalisés à la demande de l'Association dentaire canadienne par la Cie Crawley Films Ltée, sont "la recherche", "le rôle du dentiste en prévention", et un message d'hygiène publique". On espère que les postes de télévision utiliseront ces films pour rendre service au public.

C'est la première fois que l'A.D.C. utilise ces films; l'Association médicale canadienne

et d'autres se servent déjà depuis quelque temps de ces petits films avec beaucoup de succès. Cette idée conçue par le Comité des Relations extérieures et mise en acte par le Bureau des Renseignements au public a coûté \$5,000 et cet argent a été voté par le Conseil des Gouverneurs, à sa réunion de septembre. Les postes de télévision, en service du public, projettent ces courts métrages sans frais. Des organismes, tels que l'A.D.C., ont à préparer des films qui sont projetés devant les vastes auditoires de la télévision canadienne.

Nouveaux règlements pour les techniciens et Colombie britannique

Les techniciens dentaires de la Colombie britannique, qui transigeaient directement avec le public, ont obtenu le privilège de confectionner et de vendre des dentiers au public de la province.

La législature de la Colombie britannique a voté "La loi des techniciens dentaires" durant la session de 1958 et cette loi a pris effet le 15 juin 1960. Cette loi, excepté sa clause no 10, ressemble aux lois votées sur la même question dans les autres provinces.

Cette section no 10, intitulée "Licences spéciales" donne aux techniciens qui ont douze ans d'expérience en technique dentaire et, qui, durant sept ans, ont confectionné des prothèses directement pour la population de la province, le droit de continuer le même manège. Ces techniciens peuvent demander leur enregistrement trois mois après la sanction de la loi. Il y a environ 35 ou 40 techniciens qui entrent dans cette catégorie.

Cela veut dire que ceux qui, dans le passé, ont fraudé la loi obtiennent maintenant des droits spéciaux.

La clause no 11, qui suit la clause 10, est d'une inconscience cocasse. Elle se lit comme suit: "Le Conseil (des Techniciens) doit se rendre compte et prendre les mesures nécessaires pour sauvegarder en tout temps la santé et le bien-être du public en vertu de l'autorité qu'il exerce ou des licences qu'il octroie ou qu'il émet, selon toutes les clauses de ces règlements."

On y déclare qu'aucune licence spéciale ne sera accordée après le 15 septembre suivant. Tous les techniciens (environ 300) de la Colombie britannique doivent être enregistrés, mais seuls ceux qui détiennent une licence spéciale peuvent exercer directement pour le public.

Opinions parues dans les journaux au sujet de la décision de la Législature de la Colombie britannique

Le docteur C. R. Hallman, président du Collège des Chirurgiens-Dentistes de la Colombie britannique:

"Un petit nombre de techniciens ont exercé illégalement dans ce domaine durant sept ans. Le gouvernement rend maintenant légal leur comportement. Pourquoi

les contrebandiers et les avorteurs ne demandent-ils pas de légaliser leurs opérations?"

Le docteur Gordon Shrum, président du Conseil des Techniciens dentaires (doyen à l'Université de la Colombie britannique):

"La chose ne se serait pas produite, si les dentistes avaient surveillé leur propre loi. Les contrebandiers et les avorteurs sont coupables d'actes criminels et ils sont poursuivis par le procureur-général. Je ne crois pas qu'un technicien qui travaille directement pour le public commet un acte criminel."

M. J. G. McIntosh, bâtonnier du Barreau de Victoria:

"Nos universités, selon moi, devraient tendre à donner une formation de plus en plus parfaite et on ne devrait pas permettre à ceux qui ne veulent pas profiter de ces avantages de se produire dans le public avec la prétention d'être 'aussi bons'. Les membres de toutes les professions doivent envisager avec effroi tout ce qui a tendance à abaisser leurs standards. Il est regrettable que la loi (la loi dentaire) ne protège plus le public."

Congrès international à Dublin

Quelques trente pays étaient représentés au Congrès de la Fédération dentaire internationale, qui a eu lieu à Dublin du 20 au 25 juin dernier.

Sept-cent-quatre-vingt-dix dentistes s'y étaient inscrits. Ce congrès a été l'un des mieux réussis et il faut en donner crédit à l'organisme qui recevait les invités, l'Association dentaire d'Irlande.

Le prochain congrès aura lieu à Helsinki, du 9 au 15 juillet 1961 et le treizième congrès international à Cologne, du 8 au 16 juillet 1962.

Nouvelle publication en Alberta

Le "Alberta Dental Information" vient de paraître sous l'étiquette volume 1, no 1. Cette publication donne des nouvelles de la dentisterie au niveau provincial et comble une réelle lacune.

Limites imposées aux honoraires médicaux et dentaires

Le gouvernement français, selon le New York Times, vient, en vue d'amender en partie la sécurité sociale, de plafonner les honoraires des médecins et des dentistes. A la même occasion, d'après le programme de sécurité sociale, on a annoncé que les patients pourraient se faire rembourser par l'état 80% de leurs notes médicales ou dentaires. La nouvelle du Journal annonce que les médecins et les dentistes français ont dénoncé ces amendements comme contraires à la constitution et que, en mesure de protestation, certains praticiens refusent de signer les documents essentiels pour l'administration de la sécurité.

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The Meaning of the Present*

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A text for these remarks is to be found in the address of Arthur S. Flemming, U.S. Secretary of Health, Education and Welfare at last year's Convocation: "One thing is sure and that is that if the government, the dental and medical professions, and private groups cannot agree on a program that will meet the need,

compulsory health insurance for the aged will win out; and if such provision is made for the aged, we will start on the road then for provision being made for compulsory health insurance for all age groups." If the experience of other countries is studied it will be quickly found that this statement is absolutely true and applies in every case. Further Mr. Flemming said: "We need to tackle this problem together". He could have added that the health professions in all countries held back from tackling the real problem until too late and obtained compulsory health insurance.

* Presidential address delivered to the Annual Meeting, American College of Dentists at Los Angeles, October 16, 1960, and reprinted by courtesy from the J. Am. College of Dentists, 27:213, December, 1960.

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THE PROBLEM

In order to understand the present situation it is necessary to review briefly the development of government in health affairs. Like the constitution of other countries no reference to health of the public was made in the Constitution of the United States. The pattern of development is surprisingly similar in all developed countries. The first need appeared in providing a health service for seamen. This resulted in the establishment of the U.S. Public Health Service in 1798. Action following this initial move was exceedingly slow in that it was almost a century later before quarantine laws were passed. A few purely public health laws were adopted up to the end of the first world war at which time medical and dental services were provided for veterans and for the first time dentists were employed to provide dental care for merchant seamen. The Social Security Act of 1935 provided money specifically for health and welfare purposes. From this point onwards the interest and activity of government accelerated year by year. Health legislation has assumed greatly increased importance in recent years.

The first point to be noted is this accelerated action by government in the health field. Every session of government, federal or state, has health legislation in the hopper these days. This was not the case but a few years ago. The second point to emphasize is that whereas this legislation two or three decades ago had to do with public health exclusively, it is now concerned with treatment care. It is progressive in nature. Today it may be the provision of dental care for the aged but tomorrow the care will be demanded for another group said to be equally deserving and perhaps more so.

Two courses of procedure are adopted in bringing legislation for the provision and control of health care. In some countries massive legislation has been adopted converting private practice into a state scheme over-night. Of later years the

method has been to introduce the plan piecemeal, group by group. The latter method is accomplished with greater ease.

Canada is a rather typical example of the adoption of security legislation piece by piece. By the early forties legislation had been adopted for old age pensions, mothers' allowances, unemployment insurance and the other usual social security measures. As a continuation of the security movement the national health plan came into being. This plan was divided into several phases with intervals of five years, more or less, between the introduction of each phase. The first phase consisted of several grants in aid to the provinces chiefly for hospital construction, research projects, surveys in preparation for health insurance and training of pertinent personnel. The next phase enlarged the grants to expand diagnostic facilities. In 1957 compulsory hospital insurance was implemented as the third phase and at the present time all Canadian hospitals are in the plan, save one province which is now preparing to enter the scheme. During this whole period discussions have been taking place respecting the inclusion of medical and dental treatment services, which as stated in the original planning are to follow. Already in one province the subject of medical services became an election issue last June and as has occurred in other countries the electors gave support. During the election campaign it was frequently stated that dental services would follow as soon as medical services were in operation. The Canadian experience illustrates the progressive nature of the movement. Furthermore, it will be observed that health services, as in other countries, is simply a continuation of the social security movement and not something separate and apart as so often contended.

Study of the movement in the various countries promptly shows the progressive nature of the movement. It may be blocked or delayed by political action but this

proves in the end to be only a matter of time. It would be exceedingly difficult for anyone to point out actual retrogression.

During recent years alterations in health services have been occurring at a very rapid rate on a world-wide basis. The scientific advancement of the last two or three decades has been remarkable. At the same time great changes have taken place in the methodology of rendering health services. In some countries the position of the practitioner has been entirely altered from that established by tradition. In some the dentist has become a servant of the state. In other countries the dentist may appear to be operating his practice freely but what he actually is doing is carrying out the regulations as laid down by the state. Much of this is a far cry from the practice of dentistry under the individual responsibility of the dentist.

Characteristically the dental profession has concentrated on the scientific advancement and actual practice of dentistry. In the meantime a whole new social environment has developed. This development has occurred in all countries. The differences from country to country are only ones of intensity or degree. The titles or names given the movement vary. However it matters little whether the movement is called social security, national health plan or "cradle to the grave" security, the objective is the same. The point attempted here is not to argue for or against, but to acknowledge its existence. Undoubtedly the vast majority of dentists recognize this rapid change in society but do they think of it in terms of affecting themselves in the practice of dentistry.

Lest some misjudge, this speaker is by no means a radical nor does he think that some great colossal and compulsory health service is inevitable. On the other hand a crisis in health services has been building up on a world-wide basis, particularly during the last two decades and the climax has been reached in every developed country save two or three. If action

from outside the professions is to be avoided it will be necessary for constructive efforts to be made within the profession. In the light of experience elsewhere acceleration of all activities in solving existing problems is essential. In doing so the interests of both those who receive the services and those who provide the service must be understood and protected. The great difference between now and a few years ago is that decisions related to the methodology of health services have become two-party agreements whereas formerly alteration was determined by the profession alone. This is the problem to be met.

COLLEGE ACTION

The College has endeavoured over the years to secure factual information on this important matter. Over twenty years ago as a part in the work of the Committee on the Costs of Medical Care (it is worth noting that from the beginning the emphasis has been on economics) the College sponsored an investigation of health insurance in European countries. This study resulted in the publication of a book entitled *The Way of Health Insurance* by Simons and Sinai. Some of the conclusions in this report make interesting reading today. A few are well worth quoting:

"There is practically no important opposition to the principle of health insurance in any country where it now exists."

"It is a question whether any of the systems called by that name are really insurance."

"Every attempt to apply the principles of voluntary insurance on a large scale basis has proved to be only a longer or shorter bridge on the way to a compulsory system."

"Wherever dentistry was not included from the beginning in an insurance scheme, the demand for its extension to dentistry has come from dental associations."

These conclusions were set down over twenty years ago. A considerable number

of countries have introduced compulsory health insurance since but there is no reason to alter them.

Following the second World War and with the implementation of the British "cradle to the grave" security scheme, the College sent an investigator, Dr. Raymond Meyers, to make a detailed study of the scheme. This study was published in the *Journal of the American College of Dentists* in 1949. One of the most important statements in this report has to do with the insecurity of the dentist and this in a scheme called security.

During the intervening years the College has endeavoured to gather factual information for utilization in solving the problem confronting us. Emphasis has been laid on the relationships between the profession and the other components of society. One great obstacle presents itself in all this effort. Frankly stated, the obstacle is that too many dentists do not want to admit that a problem exists. Consequently these dentists do not even want to discuss it, let alone make constructive effort toward solution. The same attitude of professional men was exhibited in countries which now have compulsory health insurance.

The most important thing in the whole matter lies in the system of administration. Studies in all countries point up this fact. We know that under voluntary systems administration becomes the important thing. Without proper administration, proper services cannot be rendered and this is illustrated abundantly in studies of the numerous schemes. If the administration is right the scheme can work but if the administration is wrong the scheme fails to give the dentist an opportunity to perform his services. The administrative system is vital to the practitioner. To achieve proper administration of any plan, voluntary or compulsory, negotiation must occur. Negotiation is not a one-sided affair and, to be successful, requires not only concern for the aims and objectives of the dental profession but also a thorough recogni-

tion of the endeavours and intentions of the other party. In turn this involves a familiarity with the environment of society today. On many occasions throughout the world the dental profession has lost out through unwillingness to face the issue, lack of recognition of the other party's problem or by simply adopting a laissez-faire attitude.

This brings us to the crux of a present day situation. Until recent years, without question the dental profession administered all that was related to the practice of dentistry including the type of service to be rendered and the ethical atmosphere under which the services were rendered. Gradually today incipient arrangements are occurring wherein the profession does not exercise the control of yesterday. What of the future? Will these developments, now incipient, eventually control a major part of the practice of dentistry? Largely the answer lies in the dental profession providing an administrative system in keeping with the economic and social trends of the day.

OBJECTIVE COMMENT

Up to this point endeavour has been made to establish that a problem does exist. There would appear to be difficulty in establishing this fact in the mind of many. We live in a critical age when the professions like every other group are subject to severe criticism. In order to make progress we should be critical of ourselves. The question arises naturally what should we as individuals and as organized groups be doing?

First, there is in reality only one basic reason for the existence of the dental profession and that is to render a service. Need exists for strong re-emphasis on this most important premise. Service must occupy first place in the practitioner's mind. Just as soon as anything else is permitted to take this first position disaster follows as sure as night follows day. On this point rests the strongest argument that a profession possesses in any process of negotiation. It is the basis on which a profession has the right to

expect different treatment than any other vocation. This principle is a protective one and requires constant guarding. Just as soon as the guard is lowered the profession is open to accusations, true or false as they may be. Individually and collectively every dentist has a contribution to make in this respect which is insurance for the future.

Second, ways and means must be found to widen the horizon of the dentist to new and unexplored social responsibilities. Recommendations will be made for revision of the dental curriculum to this effect but this will be exceedingly slow in action. The need is with us now. No one can criticize the scientific development of dentistry which has been phenomenal but it is quite possible to criticize what might be called the development of the philosophical side of the profession. In order to accomplish this objective the time has arrived to take a good hard look at the type of program presented at conventions and meetings. The techniques of dentistry are overwhelmingly important but there are other exceedingly important matters before the profession which require the attention of all and these are being neglected. Real need exists for a better understanding of our social environment by the profession. It is not a question of what we may like or dislike but of understanding. John Donne, a brilliant writer of three centuries ago said, "A man cannot be an island unto himself." Today a profession cannot afford to be an island unto itself. Most leaders in the profession realize this point but find the means of implementation difficult. This cannot be accomplished by tacking a few lectures onto the undergraduate course. The social responsibility of the dental profession has widened considerably and is dual in nature. Any decision on the methods in rendering services is becoming one of negotiation between the profession and a second party.

Third, statements made in opposition to state control of health services are repetitious, hackneyed, easily depleted and non-effective. For the most part they

are so frayed that the politician easily converts them over to his own advantage. What is meant by saying—"only the best dentistry". The social scientist replies that evidently the dental profession is only interested in serving the best people and the politician even more forcibly says that dentists are only interested in serving people with money. Of course this is not true but it is the interpretation that counts. Again a great issue is made of bureaucratic control in statements made by the health professions. This is a most suitable statement in the hands of the astute politician for his own purposes. Those making such statements would do well to look more closely at some of the schemes being established. More realism is necessary in dealing with the subject.

Fourth, these are stirring days of changing concepts. Apparently few lay organized groups exist which do not have ideas how health services should be operated. No door should be left closed and the profession in full realization of current social trends should act quickly in providing solution to existing problems. Timed appropriately, the U.S. Commission on the Survey of Dentistry was established. Its report contains a considerable number of pertinent recommendations. For example, strong recommendation is made in respect to the use of auxiliary personnel. An old economic rule states that when something can be done more cheaply and as efficiently it will be done eventually that way. The critics point out that commerce, industry and other professions have made adjustment but dentistry is still carried on by the most expensively trained individual, the dentist himself, attempting to do everything. Evidence exists that a good deal less training is necessary in order to perform much of what the dentist now does himself and do it efficiently. The profession is obliged by its obligation to provide services to investigate thoroughly and apply wherever possible means that will increase the amount and the availability of services.

Fifth, a great deal appears in general literature today respecting loss of individual leadership. Bigness has become an obsession. In the minds of increasing numbers it is only the large group, association, or organization, including government, that can do anything. As a result the individual person counts himself as less and less. Such an attitude did not build the nation or create the civilization we now enjoy. Nor did this way of thinking bring the dental profession to its present important place in society. The constructive and critical contribution of the informed individual dentist is an urgent need in the solution of the problems facing dentistry. The best leadership comes when individual members of any group make contribution and this is particularly true within a profession. One thing is certain, the resulting solution will have its effect on every dentist.

CONCLUSION

No attempt it made to prophesy what is going to happen. This would be rash indeed. Effort has been made to show that a problem does exist which demands solution.

In some form, all developed countries have government-supported health treatment schemes in operation. These vary from plans for war veterans and less fortunate citizens to full comprehensive schemes for the whole population, including dental care. Emphasis is laid upon the point that in all countries the movement is progressive and never retrogressive. First one group of the population and/or one service is added and then another. The nature of the movement sharpens the need for constructive actions by the profession in finding solution to the problems of making dental care available on an acceptable basis to all who demand it. Generally speaking, it can be said that in countries with comprehensive compulsory health insurance the health professions concentrated on opposition to the

proposals and failed to take constructive action until too late. The best possible protection in time of stress is adequate defence. Such periods of adjustment are not only dangerous times; they also bring opportunities. The aim in these remarks is to establish the present position and indicate the need for constructive action by the profession.

The meaning of the present is that we are on the threshold of alterations in the practice of dentistry. These changes can be drastic. Opportunity is offered for the dental profession to provide leadership. Experience in many countries shows plainly that the leadership can pass into other hands. The history of the College is replete with examples of strong leadership. To meet the present challenge it is necessary that the American College of Dentists take up its responsibility in an ardent manner.

RÉSUMÉ

Tous les pays civilisés du monde entier ont un système quelconque d'assurance-santé subventionné par le gouvernement. Ces systèmes varient de plans pour les anciens combattants et les indigents à d'autres où toute la population est protégée contre tous les risques de la maladie, y compris les maladies dentaires. Partout ces systèmes accusent des progrès et non des reculs. On commence d'abord par un segment de la population; ensuite on ajoute continuellement, soit d'autres services, soit d'autres catégories de la population.

Cette philosophie stimule la profession à trouver des solutions constructives à ce problème de prodiguer sur une base raisonnable des traitements dentaires à tous ceux qui les requièrent. D'une façon générale, dans les pays où existe un système d'assurance-santé total obligatoire, les professions ont concentré leurs efforts à s'y opposer, en négligeant de prendre des décisions positives ou en ne les prenant que trop tard. Nous sommes

à la veille de changements drastiques dans l'exercice de la dentisterie. Il est encore temps pour la profession dentaire de proposer elle-même des solutions à ces problèmes. L'expérience d'autres pays

nous montre qu'autrement d'autres personnes ou d'autres organismes étrangers à la profession peuvent prendre les décisions à sa place.

234 St. George Street.

The Use of Halothane in Dental Anaesthesia

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Ever since Wells first applied the anaesthetic properties of "laughing gas" to practical use in 1844, nitrous oxide has been a favourite anaesthetic agent in the dental profession. This favour is probably based on the rapid induction of anaesthesia that it procures, and on the prompt recovery of the patient. The gas is relatively devoid of toxicity, does not give rise to much postoperative nausea and last but not least, is not explosive. However, considering that it is seldom used alone with oxygen and that all imaginable combinations with other anaesthetic agents have been recommended and tried at one time or another (several having been discarded) there is ample proof of its weak anaesthetic properties and of its insufficient potency for most dental interventions. Although it is assumed that a healthy subject can withstand without danger or damage the relative hypoxia induced during its administration, the question arises, over and above the difficulty of determining who is healthy in the general population and who is not,

how healthy is a person requiring single or multiple extractions? When used by itself the concentration needed to produce adequate anaesthesia cannot be reached except by creating a rather severe condition of hypoxia which can only be tolerated for a short while and even at the risk of causing irreversible brain lesions that may not always be definitely localized or immediately noticed.

Of all the medications associated with nitrous oxide for increasing its anaesthetic properties, trichlorethylene is the only one which is not explosive. Trifluoroethyl vinyl ether (Fluoromar) is another compound which has been used with it, but opinion is divided regarding its safety. Some claim that it can be made to burn, but will not explode; others state outright that it is explosive when mixed with oxygen in concentrations above 3 percent.¹ Odd as it may seem at first hand, the property of nonflammability is a primary prerequisite in a dental office where besides the naked flame of the Bunsen burner, which inadvertently be left on in the course of anaesthesia, electrical switches and motors which are not spark-proof may be turned off and on during the procedures. Were it only for the far from

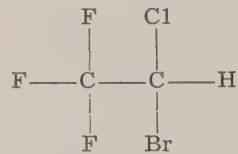
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negligible amount of static electricity generated by the dentist's own Nylon, Orlon or Dacron coat or by the apparel of his nurse, the problem would be easily solved by returning to the old-fashioned cotton or duck coats and smocks, but the use of synthetic fibres is now so widespread that the patient himself may be wearing some such item of clothing that may generate a fatal spark. Telling the patient what he should wear on his visits to the dentist amounts to wishful thinking. Another problem peculiar to dental interventions is the occasional spark flashing right in the patient's mouth when the dental forceps touches the teeth. Fire and explosion hazards are therefore such as to make a nonflammable anaesthetic eminently desirable.

The disadvantages of using ether without premedication and as a short-term anaesthetic are obvious in the light of its propensity for irritating the bronchopulmonary epithelium and inducing bronchial secretions, and of its long period of induction when used alone. Divinyl ether causes excessive salivation which interferes with a clear field in dental work; moreover its great volatility creates a storage problem with every open canister. The depressing action of ethyl chloride on the myocardium together with the post-operative nausea and vomiting which accompany its use pose serious problems in dental office procedures. Trichlorethylene is hardly any more potent than nitrous oxide and cannot therefore be relied upon to complement the inherent weakness of nitrous oxide. Cyclopropane suffers the disadvantage of delaying recovery and is obviously unsuitable where a special recovery room is not available.

In the face of obtaining an anaesthetic agent which would provide a rapid induction and an equally rapid and smooth recovery, which would reinforce nitrous oxide and yet be not explodable, various drugs were tried and it was found that halothane ("Fluothane"), as Monheim had predicted,² was probably that which

came closest to the ideal compound. Halothane (2:bromo 2:chloro, 1:1:1:1:trifluoromethane) is a liquid of specific gravity 1.86 (20°C.) which is nonflammable. Its vapours mixed with oxygen in proportions from 0.5 per cent to 50 per cent (V/V) are not explosive. It undergoes no chemical alterations in the body and is rapidly excreted unchanged through the lungs. As an anaesthetic, its therapeutic ratio is about twice that of ether³. Although devoid of serious toxicity in proper concentration, its potency and rapidity of action may represent both its strongest qualities and its main drawback as its administration calls for experience and clinical acumen on the part of the anaesthetist.



Formula of Halothane ("Fluothane")

MATERIAL AND TECHNIQUE

This paper is based on a series of 1,956 unselected cases of anaesthesia for dental interventions, mostly extractions or occasionally minor oral surgery. It includes 844 children, 403 men and 709 women. The age range of these patients extended from 3 to 82 years. Children comprised boys and girls up to 15 years old, the majority of them being between 5 and 10 years of age. The greater number of adult patients were between 25 and 40 years old and the average age for both sexes was 27.5 years.

All patients were treated in private offices. They would report at the appointed time on an empty stomach, if in the morning, or fasting for at least four hours, if in the afternoon. The occasional one might have received a mild sedative the evening before the intervention but in

most cases no premedication was given. Many of them were under considerable nervous tension.

All interventions are done with the chair tilted back at an angle of about 30° to 40° from the horizontal⁴. The patients are never sat up until the procedure is over and they are completely awake. Induction in adults is obtained by four or five breaths of pure nitrous oxide after which halothane and oxygen are introduced, first at very low concentration, subsequently increased very gradually at every 4 or 5 breaths until reaching a maximum of about 1 per cent in women and between 1 per cent and 2 per cent in men. Halothane is delivered from a noncompensated trichlorethylene vaporizer. Patients are generally ready for operation within about two minutes from application of the mask. In interventions of short duration such as the extraction of one or a few teeth, halothane is turned off at the beginning of the extraction, patients being carried on the anaesthetic already inhaled for a further 2 or 3 minutes. In more protracted cases, the mask is not taken off until completion, the halothane concentration having meanwhile been regulated according to the clinical observation of the patient. Patients are "kept pink"; at no time is any degree of cyanosis tolerated.

The routine for children is quite similar except that oxygen is started earlier and the concentration of halothane is always kept below 1 per cent. Precautions guarding against hypoxia are even more strictly enforced with them than with adults.

In about 90 per cent of cases patients awake between 30 seconds and 3 minutes from the end of the procedure. They are fully conscious and comfortable. Walsh has reported similar findings in his experience.⁵ In the present series, there was not one patient who could not stand up or who was unable to leave the office within 15 minutes from the moment he woke up.

DISCUSSION

Anaesthesia in private dental offices presents some conditions which may not be met by all anaesthetists. Apart from having to own his equipment and be stocked with supplies, the dental anaesthetist has to keep his material down to that which can be transported in the trunk or back seat of a car, or carried in the dentist's office (not necessarily located on the ground floor) without calling for extra help. He must therefore be satisfied with light and portable equipment. This requisite is easily filled by halothane which comes in bottles of 125 cc. and can be delivered by the Fluotec, Rowbotham bottle, "Trilene" vaporizer, copper kettle or F.N.S. vaporizer. It keeps well in its amber coloured bottles, does not evaporate unduly fast (boiling point 50°C. or 122°F.) and presents no fire hazard.

When used in combination with nitrous oxide, it provides an easy induction, more rapid than with nitrous oxide and oxygen alone. Unlike nitrous oxide which loses much of its efficacy in patients under nervous tension, halothane will put all types of patients to sleep including alcoholics who would otherwise show a considerable degree of resistance. It does not give rise to any disturbing dreams or hypnagogic hallucinations so that strapping the patient in the chair is unnecessary. Recovery is rapid and uneventful. The awakening period is extremely brief, patients regaining their senses almost the moment they awake. It may be unwise to move them before they are ready to do so themselves — which in most instances is a matter of minutes anyway. Ignoring this precaution may simply prolong the period of awakening. The transition between artificial and natural sleep may often be entirely unnoticed by the anaesthetist or the dentist. Thus, the patient who a moment before was still anaesthetized will suddenly wake up if his name is called in a loud voice and be in full contact with the environment

as if he was just coming out of a short nap. If left undisturbed he may carry on with his sleep for quite a while as any normal but tired person would do.

The patients are in the vast majority of cases in excellent condition, free from such nasty after-effects as nausea and vomiting, bronchial irritation or "hang-over." Such absence of complication is a definite advantage in busy office practice where all cases requiring anaesthesia are grouped together for a single day, and, in the absence of a recovery room, a minimum of delay is tolerated in the turnover. Induction is started with nitrous oxide which soon after is supplemented with halothane and oxygen. By its very potency, halothane calls for starting at low concentrations followed by slow and gradual increase. The only risks involved come from any sudden increase in concentration or delivery of too high a concentration. This is the reason for recommending the use of accurately gauged vaporizers. However, regardless of how accurately the apparatus may be calibrated, the most important factor in deciding how much halothane a patient must receive rests with the clinical observation of that patient by the anaesthetist. Except for the very onset of induction, proper oxygenation should be maintained at all times and the patient must be kept both "breathing and pink." Halothane may be switched off as soon as the procedure is over; recovery promptly ensues.⁶ Although it is possible to obtain a good quality of anaesthesia with halothane and oxygen only, patients occasionally complain of a burning sensation in the pharynx and trachea until they go under. This complaint is never heard when induction is started with nitrous oxide. The average amount used in this series was 1.9 cc. per case.

CONCLUSION

Considering the range of patients with whom it can be used, from the very young to the very old, from the healthy to the

debilitated, from the teetotaler to the alcoholic, from the placid to the apprehensive, halothane stands out as the ideal complement to nitrous oxide in dental anaesthesia, thus confirming Adriani's opinion.⁷ An added feature to its usefulness is found in its capacity to work well in the unpremedicated patient. Although its potency calls for meticulous administration, the skill required is nothing beyond what a trained anaesthetist should possess. The very small amount needed in most cases does not make the cost prohibitive. Moreover, the patient and the dentist being spared much inconvenience and anxiety, the slight increment in expense is fully justified.

SUMMARY

In his experience with 1,956 cases of dental anaesthesia in which halothane complemented nitrous oxide, the author has noted numerous advantages over the mixtures traditionally used in the past. A fast induction, an adequate degree of anaesthesia, a prompt recovery usually free from nausea, vomiting or disturbing dreams, make halothane the agent of choice in reinforcing nitrous oxide in dental anaesthesia.

RÉSUMÉ

L'auteur rapporte des observations qu'il a faites sur 1,956 cas d'anesthésie dentaire, en utilisant l'Halothane comme adjuvant au protoxyde d'azote; il a trouvé que ce mélange est plus effectif que les autres qui étaient ordinairement utilisées dans le passé. Une induction rapide, un degré convenable d'anesthésie, un réveil prompt, sans nausée ou vomissement, font de l'Halothane l'adjuvant de choix du protoxyde d'azote pour les anesthésies dentaires.

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Orthodontic Principles and Prevention in the Everyday Practice of Dentistry*

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INTRODUCTION

Canadian dentistry and the people of Canada have benefited greatly through the efforts of the late Dr. George Wellington Grieve, dean of Canadian orthodontists. Born on a farm near the town of Cobourg on September 18, 1870, Grieve was mourned throughout the dental world, and especially wherever the word orthodontics is known, in recognition of his outstanding contributions, when he died on January 2, 1950. Those who were privileged to know him recognized him as a man of scientific integrity, modesty, and sincerity whose interest in dentistry extended far beyond orthodontics. It was my privilege to know Grieve personally, and I always held him in the highest esteem as a man and as a professional colleague.

Grieve found time during his busy professional life to serve as president of the Toronto Dental Society in 1915, and was for some years associate professor of orthodontics at the Royal College of Dental Surgeons of Ontario. The American Association of Orthodontists bestowed on Grieve its highest honour, the Ketcham Award, in 1940.

After he graduated from the Royal College of Dental Surgeons in 1899, Grieve practised general dentistry until his fateful meeting with Edward H. Angle, in 1907. He graduated from the Angle School of Orthodontia, and in 1908 began to specialize in orthodontics which he practiced in Toronto for 42 years.

Edward H. Angle demanded full compliance with his teachings from his students. There exists to this day a tendency among many orthodontists to accept without question the pronouncements of the man whose disciples they become and whose "system" they follow. Not so Grieve. He was an independent thinker. He acted according to the dictates of his own convictions, and not simply because someone told him what to do.

The methods of orthodontic practice

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which Grieve advocated soon attracted wide attention. He was invited to lecture before numerous societies and at international dental and orthodontic congresses in Europe and America. While many orthodontists began to follow his basic philosophy of what is known in England as "decrowding the dental arches", by the extraction of teeth in patients who show definite disproportion between the size of the teeth and the size of the basal arches of the jaw bones, with accompanying tooth crowding, this acceptance was far from universal at that time. Grieve persevered in the face of considerable opposition. He never changed his views to please his opponents.

Time has shown the basic soundness of Grieve's ideas and practices. Today, extraction of certain teeth where indicated is almost universally recognized as an adjunctive procedure in orthodontic therapy and is taught in most dental schools.

Grieve's interest in dental health beyond his own specialty presents a true measure of his humanitarian and professional character. For many years he served as chairman of the Education Committee of the Canadian Oral Prophylactic Association, and was one of the founders of the Canadian Dental Hygiene Council. Grieve's interest in preventive dentistry is thus self-evident. It was with these thoughts in mind that I chose as my subject for this occasion "Orthodontic Principles and Prevention in the Everyday Practice of Dentistry".

THE GENERAL PRACTITIONER AND THE ORTHODONTIST

Prevention and interception of malocclusion, the importance of which was long ago recognized by Grieve, are today an important phase of orthodontics and of the general practice of dentistry itself.

Preventive and interceptive orthodontic measures, to be effective, must be applied early in the life of the child. Since the

young child is as a rule seen more frequently by the family dentist than by the orthodontist, it is essential for the general practitioner of dentistry to possess basic knowledge of the orthodontic principles involved in children's dentistry. The American Association of Orthodontists is cooperating with the paedodontists to this end.

Regardless of whether or not you include orthodontics in your practice, as a general practitioner you must be in a position to answer questions asked by parents on the orthodontic needs of their children. Parents are increasingly aware of the health and occlusion of their children's teeth. They realize, moreover, that malocclusion and lost teeth can play an important role in the personality adjustment of their child.

You must be prepared to practise prevention and interception of malocclusion before the use of orthodontic appliances becomes necessary, and to use measures which you can apply in your everyday practice whereby you can avoid long, intricate, and time-consuming orthodontic treatment in later childhood.

One of the main criticisms directed against the general practice of dentistry at the Centennial Meeting of the American Dental Association in 1959, at New York City, was that the profession has devoted most of its attention to technical procedures and had not given enough thought to the relation of basic medicodental knowledge to clinical practice. The responsibility of the dentist to keep abreast of the progress in the specialized branches of his own profession also has been largely neglected.

The question may well be asked how much do family physicians and even paediatricians know about dentistry and orthodontics. The answer can be given in two words, "Not much". The family physician and paediatrician when they examine the child are rarely concerned with dental caries or malocclusion.

Dentists as a rule know more about systemic involvement in relation to dental

development than physicians. Physicians are frequently resentful of the dentist who suggests the possibility of systemic involvement in a patient, especially if the physician has not himself first diagnosed the condition. Interprofessional meetings for the discussion of common problems can do much to help in this respect.

The dentist who looks into the child's mouth realizes that he must not fail to take into consideration the state of occlusion, swallowing habits, too long retained or prematurely lost deciduous teeth, supernumerary teeth, and a host of other conditions which can and do interfere with the developing occlusion of the teeth of the child.

ORTHODONTIC PRINCIPLES IN GENERAL PRACTICE

The significance and importance of orthodontic principles in practically every phase of dental practice is becoming more and more apparent, whether it is so-called bite raising, bridge construction, or the filling of teeth. It is necessary, therefore, for the general practitioner and orthodontic specialist to "speak the same language" and to have some knowledge of one another's aims, problems and procedures if they are to co-operate in giving the best possible service to their patients.

An important reason for misunderstanding between the general practitioner and the orthodontic specialist is the lack of inter-communication. This should begin at the time when the patient is first referred to the orthodontist and should continue during the period when the patient is under treatment. After the orthodontist has made his diagnosis he should send the referring dentist a letter stating his diagnostic findings, the general therapy indicated, the approximate length of treatment, and the prognosis.

There should be an understanding regarding the time when orthodontic bands should be removed without interfering with the patient's orthodontic progress or with his general dental health. Progress reports should be sent to the referring

dentist at stated intervals. When active treatment is completed the referring dentist should be so informed.

The aetiology of dental caries and dentofacial disturbances is not confined to the teeth alone. To stop with the teeth is to treat the deformity and ignore the child. Orthodontic principles, if they are to be applied in the everyday practice of dentistry, require a knowledge on the part of the dentist of the patient's general physical condition, and the family medical background.

While the foregoing is important, dental development is not always subject to the same factors that influence skeletal development, and general systemic maturation. For example, in precocious sexual puberty due to constitutional causes there is no acceleration of dental development. When the endocrines are involved, dental development is frequently abnormally affected. Retardation of dental development and eruption and malalignment of the teeth may be due to some specific interference with the process of tooth development and eruption, with the growth of the bone surrounding the teeth, and to genetic influences.

What is known as malocclusion, in addition to dental arch malrelations, expresses itself clinically in the form of crowding, spacing, rotation, proximal contact alterations, and changes following premature shedding, prolonged retention of teeth, supernumerary teeth, congenitally missing teeth, and teeth extracted due to severe caries. In the deciduous dentition, spacing predominates, while crowding is to be found more frequently in the permanent dentition. Anomalies of tooth arrangement attributable to postnatal environmental or local causes are largely preventable.

Growth of the jaws, development of the teeth, and establishment of the occlusion follow a genetic pattern but are influenced by congenital and postnatal environmental factors which may, in turn, however, themselves be of genetic origin. Intermaxillary jaw relationship is of a stable

individual character which, once it is established, whether normal or abnormal, usually but not always tends to be maintained during tooth eruption and jaw growth. Lack of jaw growth, which can be diagnosed with certainty only at a later period in the development and growth of the child, is in the main not preventable, and is usually unresponsive to orthodontic therapy.

Aberrations of general physical growth and development and factors of genetic, prenatal, postnatal, local, and systemic origin all must be ascertained. Some dentists, and this is true also of some orthodontists, consider such information of little practical value. While it is true that this information will not tell us which materials or appliances to use, it can tell us when and whether the patient is ready for treatment and how successful treatment will be in the presence of certain systemic diseases.

PRINCIPLES IN PREVENTION OF MALOCCLUSION

Harmful environmental factors such as poor nutrition, childhood diseases, and habits can produce dental malocclusion. The unfavourable effects on the occlusion of the individual child, however, are not always a simple cause and effect process as we have been accustomed to regard them. Many related and compensating factors must be taken into consideration.

Since poor occlusion may manifest itself in the deciduous dentition, young children should be examined at periodic intervals, especially in the early stages of the mixed dentition. If incisor crowding is observed, serial extraction may be considered. It should be remembered that this procedure requires a fine diagnostic sense, especially as to whether, and if so when, it should be performed, as described by Kjellgren (1948)¹, Dewel (1953)², Lloyd (1956)³, Palsen (1957)⁴, and others.

Serial extraction has its place in orthodontics, but it is *not* something which anyone with a perfunctory knowledge of

orthodontics should undertake. Those without orthodontic training who practise serial extraction say in effect: "There is not sufficient room for all the teeth", and then proceed to make certain that there is not going to be enough room to accommodate all of the permanent teeth by extracting some of them. Many occlusions in which serial extraction was contemplated but not performed have developed satisfactorily when growth had been allowed to continue without interference.

Much has been said and written on the changes effected in the facial profile by orthodontic therapy, especially when it involves extraction of permanent teeth. Orthodontic treatment performed up to the teenage years which seeks to "improve" the facial profile by orthodontic means, whether extraction is a part of the therapy or not, is not only beset by many uncertainties, but, more likely than not, may prove disappointing. While we may hope that the profile will remain straight, we are not at all certain of the final outcome because the genetic pattern has a tendency to reassert itself.

Björk and Jensen⁵ and Palling (1956)⁶, in a study of mandibular third molar impaction, found the causative factors to be the direction of growth of the mandible, especially deficient mandibular growth in length, and a rearward directed third molar eruption. Third molars, which appear to be in ectopic eruption during the early stages of development, frequently erupt into normal occlusion. Random extraction of third molars should be avoided.

Many believe that when teeth have been inclined or moved distally by orthodontic means, the eruptive force of the third molars can induce shifting of the distally inclined teeth, with resulting re-crowding of the incisors. No documented evidence for or against this contention has yet been presented.

Extraction of permanent teeth in children, as I have pointed out elsewhere, without replacement is productive of malocclusion⁷. It is just as important to construct replacements of lost teeth in children as in adults. The entire dentition can suffer

through neglect to replace one tooth in a child.

The introduction of untoward forces in nailbiting, or habitual biting on hard objects, and continued finger- and lip-sucking can interfere with the development of occlusion and the stability of orthodontic results. Notwithstanding some disagreement on this contention, the fact remains that if force of an orthodontic appliance will move teeth we may expect a frequently applied force from another source, such as in pressure habits, to do the same thing.

The act of swallowing is frequently found to be perverted in children and can be responsible for the establishment of malocclusion. This factor has long been recognized by a school of British orthodontists starting with Rix⁸ who introduced the term the "infantile swallow". Typical swallowing takes place with the teeth in occlusion and the tongue thrust against the lingual surfaces of the maxillary incisor teeth and the anterior portion of the palate. The tongue functions best during the swallowing act when its tip and sides can be braced against the rigid hard palate and the occluded teeth. In atypical swallowing, the tongue is thrust between the partially separated dental arches. It seeks to brace itself against the lips which are contracted and made rigid with the aid of the mentalis muscle. Rix observed that over 80 per cent of atypical swallowers exhibit malocclusion of the teeth. Self-cleansing of the teeth after eating is poor in atypical swallowers. This tends to produce a higher incidence of dental caries. Atypical swallowing and tongue-thrusting are difficult to overcome.

Deeply locked permanent first molars may make necessary the extraction of the adjacent deciduous second molars, followed by the insertion of a simple appliance to obtain space opening or space maintenance for the accommodation of the oncoming second bicuspid. Where the locking is light, disking of the distal bulge of the deciduous second molar or unlocking of the permanent first molar by means of interdental placed ligatures or spring

traction is indicated. In all cases, the general development of the dental arches, the arrangement of the teeth, the presence of tooth crowding, facial appearance and other factors should be taken into consideration before space maintenance or space opening is decided upon.

Supernumerary teeth may be responsible for delayed eruption, noneruption, and crowding of the permanent teeth. Early removal of supernumerary teeth is important to prevent crowding and other dental irregularities and dental arch malrelationships. Care must be taken, however, not to interfere with the adjacent unerupted permanent teeth, during the removal of the supernumerary teeth. It is better to wait for a more favourable stage in the dental development than to risk losing a permanent tooth. A supernumerary tooth of the duplicate type in the permanent dentition if the teeth are otherwise in regular alignment, should be allowed to remain in place, provided the occlusion is not too greatly interfered with and if the removal of the supernumerary tooth would involve major orthodontic treatment.

The arrangement of the teeth in both dental arches must be taken into consideration before the decision is made as to whether the deciduous teeth without permanent successors should be allowed to remain in the mouth. In crowded dental arches with deficient basal arches, the deciduous teeth should be extracted and advantage taken of the spaces left to move the crowded teeth into normal alignment by orthodontic means⁹.

WHEN TO RECOMMEND ORTHODONTIC TREATMENT

Age of the patient is not the primary factor in deciding when corrective orthodontic treatment should be instituted. Such a decision must be based on the presence of a condition which interferes with the continued normal development and function of the dentition of the child, regardless of age. A child has many ages.

These include chronological, anatomical, physiological, and maturative or developmental ages. These do not progress at the same rate in the individual child. The various ages may or may not coincide with chronological age in the same patient. It is important, therefore, to correlate these ages with standard tables of normal averages in order to give them due consideration in diagnosis. We should remember, however, that standards of growth and development do not apply with a high degree of exactness to the individual child⁹.

In order to avail ourselves of averages in the diagnosis of normality, we must regard the individual pattern of tooth development in time and space. In other words, we must have a good conception of what constitutes normal occlusion in the individual child. We must know not only the ages at which deciduous teeth erupt and are shed and the sequence of permanent tooth eruption, but also the relative relationship of the teeth and dental arches to each other and to the face and cranium during the deciduous, mixed, and permanent tooth eruption periods.

Some children with normal deciduous dentitions later may show abnormal permanent dentitions. Alignment of the permanent teeth cannot be predicted on the degree of perfection present in the alignment of the deciduous teeth. Interdental spacing in the deciduous dentition is not an invariable diagnostic sign of normal alignment of the individual teeth in the oncoming permanent dentition.

The size of the deciduous teeth is not an index to the size of the permanent dentition. Generally speaking we can say that a given tooth distribution, which is not usually seen in children of a particular age and stage of development, may be regarded as a sign of abnormal dental development. Gross malocclusion in the young child is usually progressive. Early treatment of such malocclusion is conducive to better aesthetic and functional results. By gross malocclusion are meant a definite maldevelopment or malrelation-

ship of the dental arches — for example, a prognathic relationship of the mandible or, conversely, a decided lack of forward mandibular development, and crossbite with the mandible displaced to one side.

While abnormal jaw relationship can easily be recognized in the young child, positional anomalies of individual teeth in children with both deciduous and permanent teeth present cannot always be diagnosed on the basis of a single dental examination. The dental examination of the young child, from an orthodontic standpoint, is not a one-time static examination but is of a dynamic character which involves the factor of time. The diagnosis should be made after a series of examinations at spaced time intervals.

Malocclusion during the early active growth period can be corrected to the normal stage for a given age only. During the later growth period, when more of the permanent teeth erupt, there may again be malocclusion.

Following premature loss or extraction of teeth, children are apt to place the jaws in abnormal positions in the attempt to obtain functional occlusion for greater masticating efficiency. This may tend to lock the dentition permanently into abnormal occlusion. Such false relationship can be recognized when the patient's head is held backward as far as possible and pressure with the palm of the hand is exerted on the mandible to bring the anterior teeth into occlusal relationship. Abnormal position of the mandible can be recognized also by observing the relation of the teeth with the mandible in physiological rest position. The dentist can frequently ascertain in this manner the presence of teeth in positions which interfere with normal occlusion and normal function. These teeth should be moved into more favourable position if normal growth is not accomplishing such movement during the developmental period.

Self-correction of lingual version of maxillary incisors may take place when there is no true overdevelopment of the mandible. Otherwise these conditions usually become progressively worse and

should receive prompt treatment regardless of the age of the patient.

In cases of abnormal fraena, surgical treatment is unwise before the permanent lateral incisors are fully erupted. The present trend is away from surgical intervention. Approximation of the incisor teeth and retention until the cuspids are in position, have been found to obviate surgical removal of fraena.

Space maintainers are employed to intercept malocclusion when deciduous teeth have been prematurely lost. In considering space retention we should remember that the space may increase, or remain the same size, or may diminish. Space maintainers may be harmful unless consideration is given to developmental occlusal changes which take place when the permanent teeth are erupting.

Many cases of apparent malocclusion are in effect phases of normal growth. Conditions in the individual patient that may be classified as malocclusion at one age level may be considered normal at another age level. For example, deep overbite in the unworn deciduous dentition at age three or four years may disappear as wear of the occluding surfaces of the incisor teeth takes place and the mandible grows forward.

In the young child, erupted teeth coming into occlusion, especially in the incisor region, may appear to be, and frequently are, in malocclusion. These patients should be followed up in order to determine definitely whether the child's teeth are actually in abnormal occlusion or whether the apparent abnormality is merely a phase of growth that will disappear as the dentition develops and the teeth finally come into full occlusion.

Serial x-ray and clinical examinations are of especial value during the mixed dentition period, when the deciduous teeth may be abnormally resorbed, prematurely lost, or retained beyond the age when they should be shed.

Malocclusion, after age twelve years, is usually the end result of previous developmental dental abnormalities. Only a limited amount of facial and jaw growth

occurs after age twelve years, although a slight increase in length of the dental arches occurs when the third molars are erupting. Diagnosis of dentofacial abnormalities when the permanent dentition has erupted is more positive, and more sustained treatment can be undertaken of the various classifications of malocclusion of the dental arches, as well as of individual teeth.

CONCLUSION

The examination of the child patient according to orthodontic principles is a four-dimensional procedure. It necessitates a dynamic time-space approach. The amount, rate, and direction of dentofacial growth and function of the stomatognathic system over a period of time must be ascertained to determine the status, progress, and terminal state of occlusion in the individual patient. There is also a fifth dimension which is currently ignored — the role of function in the development of the occlusion of the teeth and in the preservation of the teeth in the adult. Malfunction is one of the most important causes of malocclusion, of relapse of treated malocclusion, of failure of dental restorations, and of ill-fitting prosthetic appliances in adult patients. Our frame of reference today in treating patients is still too frequently based on the mechanics we employ. The orthodontic approach depends primarily on the understanding of the dynamics of growth and development and of the constitutional status of the whole child.

RÉSUMÉ

L'auteur décrit une méthode "à quatre dimensions" pour examiner l'enfant au point de vue malocclusion; elle consiste à observer durant une certaine période de temps le volume, le degré et la direction de la croissance dento-faciale et la fonction du système stomatognathique pour déterminer l'occlusion du patient, au début, en cours de développement et à son stage final.

Le rôle de la fonction dans l'élaboration

de l'occlusion et dans la conservation des dents chez l'adulte constitue une "cinquième dimension". Un déséquilibre de la fonction joue un rôle important dans les malocclusions, dans les récides des malocclusions quand elles ont été traitées, dans les échecs des restaurations dentaires et dans les insuccès des appareils de prothèse chez les adultes.

Cette évaluation repose surtout sur la compréhension du dynamisme de la croissance et du développement et de l'état constitutionnel de l'ensemble de l'enfant.

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The Treatment of Oral Lesions With Quinine Bisulphate

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Oral lesions of the "herpetiform" type are found in both children and adults. In children the most common is the "primary herpetic stomatitis" which results from an infection by the herpes simplex virus. This is characterized by red swollen gingiva, increased temperature, fetid odour, and the appearance of elevated vesicles which appear in groups or singly. The vesicles soon rupture and become yellow-grey with a background of erythema and oedema. The lesions are commonly seen on the inner surface of the

lips and cheeks and on the gingiva and the tongue. The duration of the disease is 7-14 days. During this period the child appears to be quite ill, is fretful and refuses to eat.

In the adult a variety of terms have been applied to similar conditions depending on the extremity, and anatomical location — "Herpes labialis" when it occurs on the lips; "Herpetic gingivitis," when it involves the gingiva only; "Herpetic stomatitis," when most of the oral mucous membrane is involved. Two other terms, "Aphthous stomatitis" and "Canker sores," are also commonly used and are applicable mostly when the lesions are of a single discrete type. The aetiology of these recurrent infections is not entirely

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clear. The current concept is that individuals who have had a primary herpes infection, no matter how slight, play host to the virus throughout life. The virus is believed to exist intracellularly without disturbing the host.

Factors such as menstruation, emotional upset, trauma to the tissue and allergy to foods, cause an activation of the virus which results in a breakdown of the tissue.

The local methods of treating such oral lesions have never been satisfactory, and the infection generally runs its course. Silver nitrate on small single lesions relieves the pain, but because of its caustic nature destroys healthy tissue as well as the infected tissue and actually leaves the area treated in a worse condition. The reduction in discomfort is due to the fact that nerve endings have been cauterized. Gentian violet and antibiotic troches mainly act by reducing secondary infection but have no real effect on the herpetic lesions. Other substances that have been used are bland mouth washes, the most common being baking soda, and milk of magnesia with water. There are systemic methods such as human poliomyelitis gamma globulin, which is very costly, and small pox vaccine. These methods show promise but the results are not uniform, and further investigation is necessary regarding dosage and time of administration.

In an attempt to find some method of shortening the course of such lesions and reducing the discomfort experienced, it was found that Quinine bisulphate has given a satisfactory result in most instances. Quinine bisulphate has been used in 50 cases. With the exception of two, all patients experienced symptomatic relief and rapid healing of the lesions.

Quinine, which is an alkaloid from the bark of the cinchona tree (Peruvian or Jesuits' bark), has been a therapeutic agent for over three hundred years. It was used successfully for the treatment of malaria as early as 1630. For the treatment of oral lesions it is used as a mouth wash in a solution or simply applied to

the lesions depending on the severity of the infection. It can be applied 4-6 times daily.

The Quinine bisulphate is made up in a 6 per cent solution. It should be diluted freshly for each patient as it is inclined to precipitate. There may be some difficulty in procuring Quinine from the pharmacist who may not have it in stock, but given a few days' notice he should have no problems in acquiring it from a commercial drug manufacturer.

It is extremely bitter to taste but this can be partly overcome by the sucking of a flavoured agent following the mouth wash. The mouth should not be washed out with water after the drug has been applied. Quinine bisulphate appears to have a threefold action.⁽¹⁾

- (1) It has a mild antiseptic action on bacteria and yeasts and its efficiency is not hindered by pus. Its germicidal properties appear to be about half those of phenol.
- (2) It appears to have a topical anaesthetic effect when applied to the mucous membrane. It has been shown that when quinine and its derivatives are brought into contact with sensory nerves they produce prolonged anaesthesia.
- (3) It has a styptic, stimulating and sclerosing effect on ulcerations of the mucous membrane.

Quinine bisulphate, 6 per cent is not suggested as a curative agent but it does shorten the duration of the lesions and reduce the discomfort almost immediately. Fig. 1 is a photograph of the lips of a 65 year old who was admitted to hospital for congestive heart failure and carcinoma of the oesophagus. After some weeks in hospital ulcerations of the oral mucous membrane and lip occurred associated with an erythematous skin rash. The lesions of the lips were haemorrhagic and painful and the patient was unable to eat. The condition was diagnosed as erythema multiforme. Quinine bisulphate, 6 per cent was prescribed as a mouth wash four times daily. After 48 hours

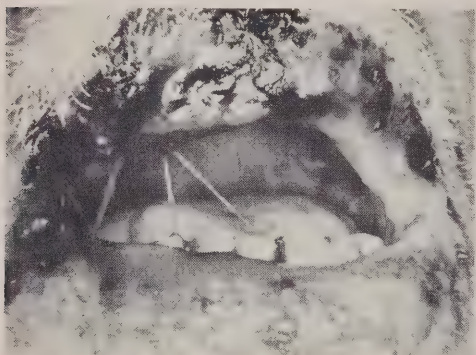


FIGURE 1

Photograph of the lips of a case of erythema multiforme.

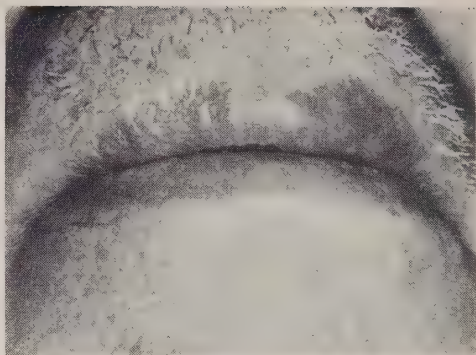


FIGURE 2

Photograph of the same patient as in Fig. 1 after Quinine bisulphate, 6 per cent treatment for 20 days.

the lesions appeared to be sclerosing and the patient stated that he was more comfortable and was able to eat soft food. From that time on the mouth improved rapidly and the lesions disappeared completely within 20 days (Fig. 2).

Fig. 3 is a photograph of the lips of a fourteen year old girl who suffers from a complete stomatitis every menstrual

period. It had been diagnosed as "recurrent herpetic stomatitis menstrualis."

The entire oral cavity was involved with large lesions on the tongue, gingiva, buccal mucous membrane, and lips. The stomatitis usually lasted from 10-14 days. Quinine bisulphate, 6 per cent was prescribed as a mouth wash four times daily. The patient experienced some relief in



FIGURE 3

Photograph of a patient suffering from recurrent herpetic stomatitis.

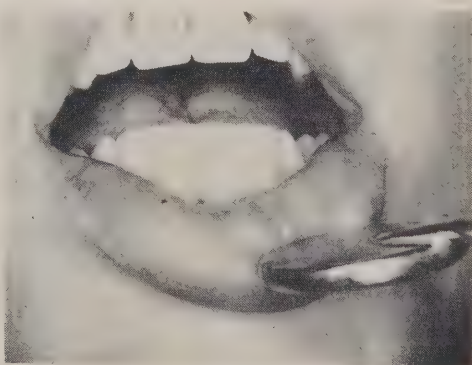


FIGURE 4

Same patient as in Fig. 3 after seven days of treatment with Quinine bisulphate, 6 per cent.

the first 48 hours and the duration of the oral lesions was reduced to 7 days. However, the condition recurred with each menstrual period, but the severity and the duration of the oral lesions were reduced by the administration of Quinine Bisulphate, 6 per cent which was prescribed at the time of the first oral changes.

The two cases presented are much more extensive than the average case seen commonly in a dental office. The remainder of the lesions treated were mostly of the "small canker" type. Many patients are plagued by such lesions every few weeks. In spite of the fact they are small the discomfort is quite intense. The treatment for such lesions is similar to that of the extensive ones. However, instead of Quinine being given as a mouth wash (which is very bitter) it can be applied directly to the single lesions by using a swab of cotton soaked in the solution. In the majority of cases the lesions responded quickly and in all cases the patient was made more comfortable. Quinine bisulphate does not affect either the teeth or the soft tissue in any deleterious manner. It can be used with confidence. It can be prescribed by the dentist and the treatment can be carried out at home by the patient.

SUMMARY

Quinine Bisulphate, 6 per cent has been suggested as a treatment for oral lesions.

1. It appears to have a sclerosing effect on ulcerated tissue.
2. It has an antiseptic effect which aids in preventing secondary infection.
3. It produces a mild topical anaesthetic effect which reduces discomfort.
4. It may or may not have a curative value but definitely does aid the patient during the acute stages and appears to hasten healing processes.

RÉSUMÉ

On a suggéré d'utiliser le bisulphate de quinine (6%) pour traiter les lésions des muqueuses qui sont du genre herpétique. Ce médicament semble avoir un effet sclérosant sur le tissu ulcéré. Il a un effet antiseptique qui prévient l'infection secondaire. Il anesthésie superficiellement les lésions et contribue ainsi à diminuer la douleur. Il ne guérit peut-être pas la lésion, mais il soulage le patient durant les phases aiguës et semble hâter le processus de guérison.

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Emergency Health Services Organization*

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For the purpose of this presentation, one accepts that Canada would become involved in any active conflict between major powers, and that she would be in danger of attack by nuclear, biological, and, perhaps, by chemical weapons. Of these three modes of mass destructor attack, that by nuclear weapons seems the most probable; biological warfare, because of recent technological advances, may now be more feasible than before; chemical attack — should it take place — would more than likely be by the modern anticholinesterase agents or nerve gases.

EFFECTS OF A NUCLEAR DETONATION

The potentialities of high yield nuclear weapons are well known, and need only brief review for this audience. The planning assumption for Canadian defence is, that the weapons used will be of multi-megaton yield, and ground burst. This means that their explosive force will be equivalent to that of several million tons of high explosive, and that they will release against their immediate targets air-blast, heat-flash, and, for a brief interval, highly penetrating ionizing radiations, as well as distributing over wide areas of countryside (up to several thousand square miles), radioactive dust or fallout.

Blast damage by a 5-megaton weapon will extend as far as 12 or 15 miles from explosive centre or ground-zero. The closer to ground-zero of course, the greater the damage; thus, for most North

American cities, structures will be completely demolished to some 3 miles from the centre, irreparably damaged to about 6 miles, and moderately to lightly disrupted 12 or more miles. The flash of heat will be intense enough to produce superficial burning of unprotected skin up to 15 or 20 miles, under "favourable" atmospheric conditions. The flash of ionizing radiation, in appreciable intensities, is well-contained within the lethal ranges of blast and heat, so that, for the high energy-yield weapon here considered, persons thereby affected probably will be dead of multiple causes. Surviving injured, or those capable of surviving, will be found at those distances where blast and heat damage is moderate or light, where the immediate radiations do not reach in sufficient amounts to cause incapacitation.

The case is very different for fallout-radiation. The weapon-cloud, created as a vast sphere of radioactive matter in the incandescent state, rises rapidly, entrains pulverized material, begins to cool and solidify, then (to almost half its content) falls out over the earth's surface in directions determined by stratospheric air currents. The weapon-fallout presents several major characteristics:

First, it can be very extensive. That from a multi-megaton experimental explosion embraced an oval area about 220 miles in its longest (downwind) axis, and about 40 miles across—altogether an area of about 7,000 square miles. A dozen or score of such ground-bursts could contaminate, to lethal or damaging degrees, most of the heavily-inhabited parts of Canada.

* Presented before the Northern Ontario Dental Association Convention, September 10, 1960.

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Second, the fallout emits two species of ionizing radiations. Gamma rays are highly penetrating and cause, in sufficient quantity, the clinical condition termed the acute radiation syndrome. The beta emanations are much less penetrating, being effective only to skin-depths or less. They produce cutaneous injuries, commonly called "beta-burns".

Third, the intensity of the gamma-radiation decreases quite rapidly with time, in an exponential manner. As a rule of thumb, for every seven-fold increase in time after detonation, there is a ten-fold decrease in the gamma intensity. Thus, if the dose rate at 7 hours after explosion at a fixed point is 100 roentgens per hour, then, at 49 hours (say, 2 days) after, it will be 10 r/hr., and, 2 weeks after, 1 r/hr., at that same point. (The beta decay-rate is not definitely known, but is, unimportant for our purposes).

Fourth, the radioactive fallout presents to man three hazards, viz.,

—The external radiation hazard, by gamma rays from the general fallout field;

—The contact hazard, by beta-emitting radioisotopes in direct, or very close contact, with the skin;

—The internal hazard, mainly by ingestion of food and drink contaminated by the radioactive dirt.

These hazards, their relative importance, time of appearance, as well as means of detecting and controlling them, are considered in detail in other publications. It is enough to say, now, that prevention of injury before it develops, rather than its treatment afterwards, is the principal aim of radiological defence.

Besides these four products of a nuclear detonation — blast, heat and light flash, immediate radiation, and the radioactive fallout — certain sequelae are inevitable. One should keep in mind the need to investigate the sociological, psychological and hygienic effects of heavy nuclear attack on a highly-organized society, and try to anticipate the many problems bear-

ing on survival, adaptation, resettlement, and economic rehabilitation.

ALLOCATION OF RESPONSIBILITIES

The present response to this challenge, in its administrative aspect, is set out in an Order-in-Council, P. C. 1959-656, dated 28 May, 1959. The Order could be studied with advantage in its entirety, but its principles should be known to anyone who is at all interested in the subject.

It assigns to the Minister of National Defence responsibility for warning of attack, location of nuclear explosions and patterns of fallout, and for giving fallout-warning to the public; assessment of damage and casualties, re-entry into damaged areas or areas of heavy fallout, and rescue and provision of first aid to the trapped and injured; within target-areas, direction of police officers, municipal services, traffic control, and movement of people; direction of other municipal services, e.g., (emergency) repair of water and sewage systems in seriously damaged or contaminated areas; assistance in maintaining law and order; and the maintenance of emergency communications.

The Minister of Justice is charged with assistance to provincial governments and municipalities in maintenance of law and order, and in traffic direction.

The Prime Minister, through the Emergency Measures Organization, exercises overall co-ordination of the efforts of other departments of government; prepares plans, other than those for which other agencies are responsible; assists provinces and municipalities where necessary; conducts liaison with foreign governments, with the North Atlantic Treaty Organization, and with provincial governments on civil defence matters.

The responsibilities of the Minister of National Health and Welfare are of particular interest to us, and are quoted verbatim: "The Minister of National Health and Welfare shall have and exercise the following civil defence powers, duties and functions:

"(a) assistance to provincial and municipal governments and to others in connection with the organization, preparation and operation of

"(i) medical, nursing, hospital and public health services, and

"(ii) services to provide emergency accommodation, emergency feeding, emergency supplies, guidance and welfare assistance for persons who have lost or left their homes because of acts of war or apprehended acts of war: and

"(b) maintenance and operation of the Civil Defence School at Arnprior, Ontario."

Two points must be noted in regard to the above: First, that the provisions of the Order were developed only after consultation between provincial and federal governments, and, second, that their application remains at this time the subject of discussion between agencies of the governmental departments concerned. In our own field of interest, co-ordination of the rôles and allocation of responsibilities of the Canadian Forces Medical Service, of Federal Emergency Health Services, and of the health services of the provincial governments, are the most topical subjects. So far, agreements on the following principles can be assumed:

—That Canadian Forces Medical Service shall be responsible for immediate first-aid to survivors, and to their early sorting, and emergency medical treatment;

—That the provincial health authority carry the burden of evacuation, hospital care, continuing medical care, and implementation of plans for preservation of health. This is in accord with established constitutional procedure;

—That Federal Emergency Health Services develop and co-ordinate plans, continue their educational role in the

professional health field, stockpile emergency health supplies, and act as consultants and advisers to the provincial health authorities as occasion requires.

Federal Emergency Health Services is a division within the Health Branch of the Department of National Health and Welfare. The Chief of the Division is responsible to the Director of Health Services, and is charged with many duties of administration, co-ordination, and liaison. The staff consists of five consultants, each heading his own section. They are the medical consultant, public health consultant, health supplies consultant, nursing consultant, and consultant in special weapons. There are two advisers at the present time; one from the Dental Health Division, Department of National Health and Welfare (the dental adviser) and one from the Department of Agriculture (veterinary adviser). A radiological officer works within the Special Weapons Section. Officers of the division have access to a wide spectrum of consultants in all fields of interest. One should say that clinical, scientific, and technological support to Emergency Health Services is generous and high in quality.

ACCOMPLISHMENTS TO DATE

It is often asked what has been accomplished so far by Federal Emergency Health Services and by the provinces? Regarding the activities of the former, certain parts of the Annual Report (1959) of the Department of National Health and Welfare, may be paraphrased.

Educationally, a number of courses for members of the health professions — physicians, dentists, nurses, pharmacists and veterinarians — have been offered at the Canadian Civil Defence College, Arnprior, Ontario. In round figures, the number of physicians trained is about 450; of dentists, 100; of nurse educators, and nurse specialists, 800; of veterinary practitioners, 75; of pharmacists, 275. Provin-

cially-sponsored courses have been encouraged, and, when possible, federal officers have given direct assistance at these courses. Undergraduate indoctrination in several faculties of medicine, dentistry, and pharmacy, schools of nursing, and veterinary courses have been instituted. Educational material has been prepared and distributed. The most important items are revisions of chapters of the earlier (1952) Civil Defence Health Services Manual. These are being prepared as separate booklets, and the titles so far published are Primary Treatment Services Hospital Disaster Planning, Laboratory Blood Techniques for Pharmacists, Hospital Evacuation Planning, and (in press) Emergency Blood Services, and Nuclear Weapons Data for Emergency Health Services. Others will follow. Collections of papers presented at the several types of indoctrination courses are issued to candidates, and to others on a limited scale. Emergency Health Services Advisory Bulletins, designed to bring new data to the attention of the health professions, are under preparation. National professional journals have given much space (and, in some cases, whole issues) to emergency health services' topics; an example is the *Canadian Medical Association Journal*, Special Issue for Civil Defence (Vol. 76, No. 5, March 1, 1957).

The stockpiling of emergency health supplies has extended over some ten years, and money up to 18 million dollars has been authorized and (in part) spent, for the purpose. Stockpile items have been determined in consultation with competent consultants, and purchased through the normal governmental channels from many suppliers. Two or three points on emergency health supplies require special notice. First, the stockpile has been planned to meet the requirements of early treatment services, emergency hospital care, public health, and reserve supplies. This has involved the development of functional packaging for 420 advanced treatment centres, and 200 improvised hospital units, besides 20 public health laboratories. Second, the stock-

pile has been in large part decentralized, and stores, under military protection, have been created at a number of places across the country, at points deemed unlikely as direct target areas. Third, the cost is borne by the federal government, and supplies will be released to provincial health authorities on war-time requirement. Besides this, hospital disaster supplies to meet local disasters have been bought and packaged, and are awaiting distribution.

The above outline should suffice to acquaint the reader with emergency health services organization in Canada. One is often asked, where does one look for detailed guidance in emergency health planning, and who is the directing authority for local plans? In Ontario, such questions should be directed to the Assistant Director, Provincial Emergency Health Branch*; in other provinces, to analogous officials.

SUMMARY

Nuclear attack on Canada could cause large numbers of traumatic and thermal casualties as an immediate effect of the weapon - detonation; radiation - sickness, skin-damage, and late internal effects by the radioactive fallout; serious problems in hygiene, sanitation, and sociology as sequelae. The solution to this problem lies in adequate education of public officials, the health professions, and the laity; implementation of present plans for casualty care; allocation of responsibilities between the three elements of civil government, and the Armed Forces. For early casualties, three levels of management — first aid, early treatment and definitive hospital care — are planned and recommended. For radiation injury, the approach is preventive. For mitigation of the hazards to public health, early planning on a local level, under municipal and provincial aus-

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pices, is required to give some assurance of success.

RÉSUMÉ

Une attaque nucléaire sur le Canada, à cause de la nature des explosifs employés, causerait d'abord un grand nombre de blessures traumatiques et thermiques; les tombées radio-actives occasionneraient ensuite des maladies dues à cette radiation, des lésions de la peau et des manifestations internes; toutes ces conséquences soulèveraient des problèmes sociologiques d'hygiène et de sanitation. On peut préparer des solutions à tous ces problèmes en éduquant les fonctionnaires, les

professions sanitaires et la population; en mettant en acte les projets actuels pour des soins de blessés et en déterminant les responsabilités des trois secteurs civils et de l'armée. Le traitement des blessés se divise en trois phases: soins d'urgence, traitements préliminaires et évacuation à l'hôpital. La prévention joue un grand rôle pour les blessures causées par la radiation. Une organisation précoce au niveau local, sous les auspices des autorités municipales et provinciales, s'impose pour minimiser les dangers que court la santé de la population.

*Department of National Health
and Welfare*

DENTAL PUBLICATIONS OF CANADA

The Royal Canadian Dental Corps Quarterly is published four times a year by authority of the Director General of Dental Service, Royal Canadian Dental Corps. The "Quarterly" circulates information of interest to dental personnel of the Canadian Armed Forces. The editorial board comprises Colonel G. B. Shillington, Lieutenant-Colonel J. G. Butler and Major D. H. Protheroe.

Annual Session of
THE BOARD OF GOVERNORS
of
THE CANADIAN DENTAL ASSOCIATION
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EDITORIALS

The Canadian Dental Health Index

Early in 1958 an invitation was extended to the Canadian Dental Association to appoint a representative to the Canadian Conference on Children, held on October 2-6, 1960, and to submit a report on outstanding dental problems affecting the health and well-being of Canada's junior citizens. While acceding to this request, the Board of Governors recognized that there was insufficient reliable information available about the incidence and prevalence of dental caries, periodontal disease and malocclusion among Canada's children on which to base any definitive conclusions and recommendations.

To be sure, dental public health workers in several areas had made remarkable progress during the past decade in the development and standardization of dental survey techniques and in the compilation of dental epidemiological data. Nevertheless, only one province, British Columbia, had succeeded in developing a procedure reflecting dental health conditions in children from all the major centres of population, thereby achieving Canada's first provincial dental health

index. Similar efforts in some Ontario cities and rural health units had likewise produced valuable epidemiological data, but unfortunately some of the larger centres of population, such as Hamilton, did not contribute so that the goal of a provincial dental health index for Ontario had not been realized. Elsewhere in Canada the situation was patchy.

Recognizing the urgent necessity for sound national dental health statistics as a basis for rational expansion and distribution of dental and auxiliary personnel, for the development of group purchase plans for prepaid dental care, and for the proper evaluation of programs for the prevention and control of dental diseases, the Board of Governors in 1958 gave approval to the conduct of a survey of children's dental health on a nation-wide scale and to the development of a national dental health index. An ad hoc national survey committee consisting of the chairmen of the Councils on Public Health and Research, assisted by technical advisers from the fields of statistics, dental caries, periodontal disease and malocclu-

sion, was established to assemble available data for an initial report to the Canadian Conference on Children and also to draft a methodology for developing a Canadian dental health index which would be representative of Canada's children as a whole.

To Dr. R. M. Grainger, the committee's statistical technical adviser from the Faculty of Dentistry, University of Toronto, goes much of the credit for preparing this methodology as a first step to the standardization of dental statistics across Canada and in the encouragement of the various provincial authorities with their organization of dental surveys. Published by the Association under the title "*The Evaluation of Canadian Dental Health*" (July 1959), this manual serves as a system for recording and statistical analysis of dental health observations at the community, provincial and national levels. Because of the diversity of local community and provincial dental health programs, there has been developed a versatile statistical system which is sufficiently flexible to serve as many needs as possible while achieving a measure of basic uniformity so that information collected at every level can be interpreted and utilized on the broadest possible basis.

For the initial survey, the provincial corporate members of the Canadian Dental Association have been encouraged to establish provincial survey committees in collaboration with the dental directors of provincial health departments. During 1960 each provincial survey committee was requested to survey a sample of one thousand children drawn from the medium-sized centres of each province (population of 10,000 to 100,000) in order to provide a national sample of approximately ten thousand children. At the same time those agencies which have or wished to conduct independent or supplementary surveys have been encouraged to adopt the pattern suggested in the C.D.A. manual. It is anticipated that preliminary provincial indices will be computed during the spring of 1961 in time to be forwarded to the ad hoc national survey committee before April 30, 1961. Thereby the first Canadian national dental health index should become available before the end of the year.

Although this first national dental survey and national dental health index constitutes a significant achievement, it will really only be the prelude to further periodic surveys — and the initiation of an efficient book-keeping system for Canadian dentistry.

The Survey of Dentistry in the United States

How can dentistry improve the provision of an essential health service to society? This question is of vital importance, for, as society develops and matures,

there is critical need for parallel growth on the part of a profession that desires to remain a viable component of the national economy. In an effort to find the an-

swer, leaders in the dental profession in the United States approached the American Council on Education some time ago with a proposal to undertake an objective study of the achievements, resources, potentialities and goals of dentistry in the mid-twentieth century.

Dentistry in North America has previously benefited from a number of surveys such as the Gies study on dental education of 1926, the Blauch curriculum study in 1934-5, the O'Rourke and Miner report on dental education in 1941 and the Horner report on dental education in 1947. But the study proposed in 1950 was to be by far the most comprehensive and far-reaching effort of its kind.

In due course representatives of the American Dental Association and the American Council on Education executed an agreement and the Council appointed a Commission to conduct the survey. Dr. D. W. Gullett, secretary of the Canadian Dental Association was a member of this Commission on which were represented dentistry, medicine, public health, business, industry, education, labour and social service. Dr. J. A. Perkins, its chairman, and Dr. B. S. Hollinshead, its director, guided the entire study for two and a half years to a successful conclusion early in 1960. Much commendation is also due to the twenty-eight members of the special sub-committees on dental public health, dental practice, dental education, and dental research who gathered, sifted and analyzed the evidence and data that forms the basis of the Commission's findings, conclusion and seventy-seven recommendations.

A Summary Report of the Survey of Dentistry in the United States was presented in October of last year at the annual Convocation of the American College of Dentists held in conjunction with the annual session of the American Dental Association at Los Angeles. A review of this Summary Report appears elsewhere in this issue of the Journal. The complete and final report is anticipated later this year.

From the Canadian viewpoint, the significance of this study stems from the similarities affecting dental health on both sides of the international border. Only 35-40 percent of the people of both nations receive periodic dental care. By any meaningful standard of measurement, the present level of dental health in both national populations leaves much to be desired. Quoting the dean of a leading eastern dental school, the report states that:

"If all the dentists in the United States were lined up on the east coast and moved westward, taking care of the needs of the population, by the time they reached Harrisburg, Pennsylvania, they would have to go back and begin all over again."

If this is said of a country with one dentist for every 1,697 people, it is well to remember that in Canada there is only one dentist for every 3,018 people.

For American dentistry, the Survey reveals some serious problems and recommends the measures whereby these can best be solved. Although the 90,000 practising American dentists are considered to be coping reasonably well with the existing demand for dental care, they are totally inadequate if this demand were to rise. The Commission clearly anticipates conditions which will tend to increase demand and narrow the gap between demand and need for dental care and to that effect it makes practical recommendations with respect to dental public health, private dental practice, dental and auxiliary personnel, the purchasing of dental care, and dental education.

For Canadian dentistry, the present unfavourable and deteriorating balance of dentists to population holds ominous implications. Growing demand for dental care and piecemeal development of methods with which to meet this demand reflect a situation charged with greater potential danger than south of the border.

Thus the recommendations of Canadian authorities like Ellis, McCutcheon, Neil-

son and Dunn assume added significance when viewed in the light of proposals advanced in the United States. For this rea-

son alone, the Survey of Dentistry in the United States deserves the thoughtful attention of Canadian dentists.

The Royal Commission on Health Services

The establishment of a Royal Commission on Health Services by the Government of Canada marks the latest in a series of developments which have significance for the future provision of health care in this country. It is no secret that the nation's major political parties as well as influential elements within the trade union movement have definite concepts with regard to the future provision of health services. A recent public opinion survey, conducted by the Canadian Institute of Public Opinion (the Gallup Poll),¹ indicates that a solid segment of the general public favours a government-sponsored national health program, even if this would incur higher levels of taxation. It appears that a significant proportion of the public considers a national health plan inevitable and desirable, and one may assume that those who influence party policy or determine government action have their finger on the public pulse.

Against this background, the Canadian Medical Association recently approached the Government of Canada with the request that a Royal Commission be established to investigate the nation's health needs and resources and to study methods of ensuring health care of the highest standard to every citizen.² Prime Minister Diefenbaker's response to this request is a matter of public knowledge and, with another federal election in the offing, it may be taken for granted that the Royal

Commission will not be tardy in pursuing its investigations and making recommendations.

How this will affect the practice of dentistry remains to be seen, but if the recent developments in the four western provinces are any indication at all, there is no doubt that Canada's dental health needs and resources will be high up on the list of problems to be studied and that present methods of providing dental care will come in for a searching examination. It is therefore in the public interest that the view of Canada's dentists be properly presented to the Royal Commission. The importance of this fact was not lost upon the participants at the second annual conference of secretaries of the provincial corporate members of the Canadian Dental Association when they met at Association headquarters on January 9 and 10. Whether the Royal Commission will invite the submission of a brief from the Canadian Dental Association or whether the Commission plans to conduct hearings at strategic centres across the country will become apparent in due course. However, we feel safe in assuring the readers of the Journal that the representatives of the profession will speak clearly and effectively on behalf of Canada's dentists.

REFERENCES

1. Sanders, B. H. The Public Looks at Medical Services. *Ontario Med. Rev.* 27:1159, December 1960.
2. Dentistry in the News: Canada and the Provinces. *J.C.D.A.* 27:110, January 1961.

BUREAUX, COMMITTEES AND COUNCILS

Supreme Court of Canada Defines Practice of Dentistry

The Secretariat, Canadian Dental Association

One of the most important decisions affecting the practice of dentistry was contained in a judgement recently delivered by the Supreme Court of Canada. The matter concerned the fabrication and fitting of dentures by a dental technician in Drumheller, Alberta. Charged with a violation of the Alberta Dental Association Act, the accused conceded that he had taken impressions, bite registrations, try-in registrations, had fabricated and had fitted the dentures. But he claimed that the fee paid to him was only for the manufacture of the dentures and that no charge was made for any of the intra-oral procedures. The original complaint on behalf of the Alberta Dental Association was dismissed by the local magistrate as was the provincial attorney-general's appeal to the District Court in Calgary. A further appeal was sustained by the Appellate Division of the Supreme Court of Alberta which found the accused guilty of practising dentistry illegally, with the comment, "the mere denial of the accused that he did not charge for this work but finished the teeth only must be regarded as an attempt to evade the real nature of the work he was carrying on," i.e. practising dentistry illegally.

In February, 1960, solicitors for the accused appealed to the Supreme Court of Canada against the Supreme Court of Alberta's decision. The appeal was heard on October 12, 1960. The judgement of the Supreme Court of Canada, pronounced on November 21, sustained the decision of the Supreme Court of Alberta in that the whole series of procedures must be judged as being part of the service rendered and for which payment was received. Furthermore, the Supreme Court of Canada took the view that there does not have to be a fee, salary or reward, but that any compensation, no matter how it may be received by the person supplying the service, must be considered in the same category as the fee, salary, etc.

This decision is likely to have far-reaching

implications and the solicitors of the Canadian Dental Association have accordingly prepared the following digest of the case:

STERLING GILBERT VAIL

v.

HER MAJESTY THE QUEEN,
on the Information and

Complaint of RONALD G. DICKSON

The Supreme Court of Canada has recently handed down its decision on an appeal from a Judgement of the Appellate Division of the Supreme Court of Alberta, arising out of a conviction against Sterling George Vail for practising the profession of dentistry "for hire" contrary to Section 37(a) of the Dental Association Act of the Province of Alberta.

The Judgement of the Supreme Court of Canada deals at some length with technical and procedural matters involving Court jurisdiction and rights of appeal and also provides an authoritative interpretation of the true construction to be placed on certain sections of the Alberta Dental Association Act.

There was no dispute as to the facts of the case. In 1958 the appellant, Vail, who was not a registered dentist but was a dental mechanic carrying on business at Drumheller, Alberta, made and fitted a set of dentures for a man named Hill. During Hill's visits to Vail's office, impressions were taken, bite blocks were used to determine the relation of the upper and lower jaws, teeth were set up in wax and placed in his mouth and finally the plates were put in his mouth. All of this work was done by Vail. On the first of five visits, Hill paid Vail \$42.33 and on the final visit \$46.67, making a total of \$90.00.

The fact that the money paid to Vail was paid by Hill simply for manufacturing the dentures and that no charge whatsoever was made for obtaining the bite, making the impression or any of the other dental work, was sworn to by Vail and by Hill and was not contradicted. It was accordingly argued that the \$90.00 was paid solely for the making of the dentures and not for doing any of the things specifically itemized in Section 30 of the Dental Association Act as constituting the practice of dentistry if done for a "fee, money or compensation."

The Appellate Division of the Supreme Court of Alberta held that as Vail's "skill and experience" in doing dental work were part of the value or price he was able to obtain for the finished dentures, it followed that his conduct constituted "practising the profession of dentistry . . . for hire" within the meaning of Section 37(a) of the Alberta Act.

The Supreme Court of Canada stated that it was in full agreement with the decision of the Appellate Division and also added its finding that the dental work was done "for hire" in another

sense. The Court said that the words "for hire" as used in Section 37(a) do not necessarily import the payment of money and should be construed as including any kind of compensation or reward. In applying this reasoning to the case under discussion, it was stated that at least a part of the compensation which Vail received for doing the dental work was that he thereby obtained Hill's order to manufacture the dentures and incidentally received it at a better price than the dentists had been in the habit of paying for such work, so that even if it could be said that Vail was paid no money for doing the work of a professional dentist, it would, nevertheless, be apparent that he was compensated for such work by receiving a profitable order for his work as a dental mechanic, and this was one measure of his hire.

In the result, the transaction between Vail and Hill, even as that transaction was described by Vail, was held to constitute practising dentistry "for hire" within the meaning of Sections 37(a) and 30 of the Dental Association Act.

Federal Income Tax Returns by Members of the Dental Profession

The Secretariat, Canadian Dental Association

For guidance to the dental profession and to bring about a greater uniformity in the data to be furnished to the Taxation Division of the Department of National Revenue in the annual Income Tax Returns to be filed, the following matters are set out.

INCOME

1. There should be maintained by every member of the dental profession an accurate record of income received, both as fees from his profession and by way of investment income. The record should be clear and capable of being readily checked against the

return filed. Records should be maintained in books kept for the purpose which should be retained until written permission for their disposal is obtained from the Minister of National Revenue.

EXPENSES

2. Under the heading of expenses the following accounts should be maintained and records kept available for checking purposes in support of charges made:

- (a) Dental and like supplies.
- (b) Office help, nurse, bookkeeper, laundry

and malpractice insurance premiums. Amounts of salaries and wages paid should be reported on Form T4, obtainable from your District Income Tax Office. (The Income Tax Act does not allow as a deduction a salary paid by a husband to a wife or vice versa. Such amount, if paid, is to be added back to income of the payer.)

- (c) Telephone expenses incurred in connection with professional practice.

- (d) Assistant's fees:

The names and addresses of the assistants to whom fees are paid, and amounts paid, should be furnished on or before the last day of February in each year on Form T4. (Do not confuse with individual return of income, Form T1, to be filed on or before 30th April in each year.)

- (e) Rentals paid:

The name and address of the owner (preferably) or agent of the rented premises should be furnished. (See (g).)

- (f) Postage and stationery.

- (g) Proportional expenses of dentists practising from their residences:

- (a) Owned by the dentist:

Where a dentist practises from a house he owns and as well resides in, a proportionate allowance of house expenses will be given for the laboratory, office and waiting room space, on the basis that this space bears to the total space of the residence. The charges cover taxes, light, heat, insurance, repairs, and interest in mortgage. (Name and address of mortgagee to be stated.) Note: For depreciation see item 2 (m).

- (b) Rented by the dentist:

The rent will be apportioned and heat and light if paid by the dentist; the owner of the premises takes care of all other expenses mentioned in (a) above.

- (h) Sundry expenses (not otherwise classified):

The expenses charged to this account should be capable of analysis and supported by records.

Claims for charitable donations will be allowed up to 10 per cent of net income from all sources upon submission of receipts to your District

Income Tax Office. Charitable donations made through professional practice should be excluded from professional expenses and claimed as a deduction from income generally, along with any donations made otherwise.

The annual dues paid to governing bodies under which authority to practice is issued and membership association fees, to be recorded on the return, will be admitted as a charge.

The cost of attending post-graduate courses will not be allowed.

- (i) Interest paid on borrowed money may be charged against professional income if the borrowing was for professional purposes. If the money was borrowed to acquire investments, the interest is chargeable against the investment income. If the loan was for personal purposes no deduction from income will be allowed for the interest paid thereon.

- (j) Business tax will be allowed as an expense but income taxes will not be allowed.

- (k) Automobile expenses:

Taxi fares and automobile expenses incurred in earning the income from the dental practice will be allowed when the dentist must visit the patients at their homes. The cost of transportation between the dentists' home and his office, however, is not an allowable deduction from income.

- (l) Social club dues are allowable as deductions from income only when, and to the extent that, they are paid for business purposes, and any dentist claiming them may be required to prove, to the satisfaction of the taxation authorities, that the amount claimed was expended wholly and directly for the purpose of increasing his business income. "Social club dues" means annual or monthly membership dues or fees; it does not include an initiation or entrance fee or the cost of a share of a club's capital stock, nor does it include charges for food and drink, living accommodation, fees for the introduction of guests and the like.

- (m) Capital Cost Allowance (Depreciation):

A description of the treatment of capital cost allowance may be found on page four of the Income Tax Return form T1 General under the Part XI

Method and in the T1 General Information Sheet.

The method of computing capital cost allowance for tax purposes is the same as that used last year and you should have no difficulty if you have a copy of last year's return available.

Simply carry forward the balance remaining in each class after deducting last year's allowance. Add to this

figure the cost of any new equipment purchased and deduct the proceeds from any disposal of property in each class. The rate you wish to use not exceeding the maximum rate (see below) is applied to this new balance for each class to obtain the capital cost allowance you may claim this year.

The schedule on page four of the Income Tax Return is reproduced:

SCHEDULE

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Class Number	Undepreciated Capital Cost at Beginning of 1960 (Col. 8 of 1959 return)	Cost of Additions During 1960	Proceeds From Disposals During 1960	Undepreciated Capital Cost Before 1960 Allowance (Col. 2 plus 3, less 4)	Rate %	Capital Cost Allowance For 1960	Undepreciated Capital Cost at End of 1960 (Col. 5 less Col. 7)

The maximum rates for the classes of equipment most used by dentists follow:—

Assets	Class	Maximum Rate
Dental Equipment including instruments each costing \$50.00 or more	8	20 %
Instruments costing less than \$50.00	12	100 %
Office Furniture and Fixtures	8	20 %
Frame Building (office or residence used both as dwelling and office)	6	10 %
Brick Building (office or residence used both as dwelling and office)	3	5 %

Instruments costing less than \$50.00 each belong in class 12 and have a maximum allowance rate of 100%. They should not be included in expenses but should be recorded as additions in column 3 of the schedule.

Where a dentist practises from a house which he owns and resides in, the allowance may be claimed as above on a portion of the

cost of the residence, excluding land. For example if the residence were a brick building costing \$12,000.00 and one-third of the space were used for the office, the dentist would use \$4,000.00 as the business portion of the cost and apply the building rate of 5% to determine the maximum depreciation allowable in the first year.

For further information on the subject you may refer to the Regulations or you may consult your District Income Tax Office.

CONVENTION EXPENSES

Convention expenses are allowable to an individual practising a profession, but the allowance is restricted to the expense of attending no more than two conventions in a taxation year. The taxpayer's attendance at the convention must have been for professional reasons. There are no geographical restrictions and the convention, therefore, need not necessarily have been held in Canada. The expenses to be allowed must be reasonable and the taxpayer should show:

1. The dates on or between which the convention was held, and the location thereof:
2. The number of days he was present at the convention, supported by a certificate

of attendance from the sponsoring organization; and

3. The expenses incurred, segregating
 - (a) Transportation expenses
 - (b) Meals, and
 - (c) Hotel expenses, for which at least vouchers should be obtained and kept available for inspection.

All expenses of a personal nature including those attributable to the fact that the taxpayer's wife (or husband) accompanied him to the convention must be excluded from the foregoing.

No expenses for attending a convention are allowable as a deduction from salary income, since such a deduction is prohibited by Section 5 of the Act.

REGISTERED RETIREMENT SAVINGS PLANS

The amount that is deductible in respect of contributions to a retirement savings plan is limited:

- (a) In the case of an employee receiving a salary who is covered by an employer-employee pension plan, to the lesser of \$1,500 or 10% of his earned income; and
- (b) in other cases, to the lesser of \$2,500 or 10% of his earned income. "Earned income" usually consists of income received as salary (before any pension deductions) or income from carrying on a business or profession, plus net rental income.

The amounts deductible are those paid in 1960 and within 60 days after the end of the year. A payment made in January or February 1960 cannot be claimed in 1960 if it could have been deducted in 1959.

Individuals enquiring whether a proposed or existing plan is acceptable should usually obtain that information from the corporation offering the plan as it will normally be the corporation's responsibility to explain the plan and get it registered.

Dentists who have applied for membership in the Canadian Dental Association Retirement Savings Plan prior to February 15, 1961, may be assured that their names are registered as participants in a registered retirement savings plan and that their contributions are deductible for the taxation year 1960. The closing date for applications and contributions applicable to 1960 is February 15, 1961.

A personal statement of account and a re-

ceipt showing the amount of contributions will be mailed in March 1961 to each participant to support claims made for deductions in 1960 income tax returns.

Applications for membership in CDARSP received after February 15, 1961, will entitle participants to tax deferment for 1961.

PAYMENT OF TAX

3. Payment of Tax. Individuals whose income is more than 25% derived from sources other than salary or wages are required to pay the tax for each year by quarterly instalments during such year on the following dates, 31st March, 30th June, 20th September and 31st December.

DENTISTS UNDER SALARY CONTRACT

4. The Income Tax Act provides for the deduction of certain expenses from salary income.

The allowable expenses include travelling expenses, annual professional membership dues, office rent, salary to an assistant or substitute and supplies consumed directly in the performance of the duties of employment.

Certain conditions are attached to the allowance of the expenses without trying to recite the exact provisions of the law the main points are:

- (a) That the expenses must have been incurred in the performance of the duties of the office for employment.
- (b) That the employee is required under the contract of employment to pay the expenses.
- (c) To claim travelling expenses the employee must be ordinarily required to carry on the duties of his employment away from his employer's place of business. Travelling between the dentist's home and his office is not included.

INCOME FROM A PARTNERSHIP

5. Additional expenses incurred by a partner, but not charged to the partnership, may be claimed as a deduction from the partner's share of income. However, the partner must be in a position to substantiate these expenses, to show why they were not charged to the partnership and that they were necessarily laid out to earn partnership income.

A National Dental Recruitment Program in Canada

Council on Dental Education (National Recruitment Committee)

In view of the importance of recruiting highly qualified candidates for training in dentistry, the Board of Governors of the Canadian Dental Association at the annual meeting in September, 1960, authorized the creation of a National Recruitment Committee as a subcommittee of the Council on Education. This committee met at Association headquarters on January 5-6, 1961, to examine existing activities and to develop the broad outlines of a national recruitment program.

At present only two provinces have reasonably comprehensive provincial recruitment programs. Five other provinces are planning such programs and in one further province there are efforts to influence individual dentists to act as agents of recruitment. In only one province is there an organized effort to create local recruitment committees. The individual dentist represents the most important component of any recruitment program. He must be made cognizant of the fundamental need for such a program and he must be motivated to adopt a participating interest and concern.

NATIONAL ASPECT OF THE RECRUITMENT PROGRAM

The policy of the Canadian Dental Association is defined in its policy statement on Projection of Dental Services in Canada:

"To meet the demands of the public for dental services by providing more good dental services to more people at a cost that is within the public's ability to pay."

To accomplish this end, more dentists and auxiliaries are needed and a national recruitment program is envisaged with two aims:

1. To increase the number of suitable applicants for training in dentistry and auxiliary fields, and
2. To stimulate dentists to act positively and aggressively to encourage young people to seek careers in dentistry.

Basic Organization. — Because personal contact is the best means of communication, the

following step-by-step method is recommended to start the program:

1. Select one man (chairman of national committee) to
2. Influence a nucleus (national committee) to
3. Persuade each province (provincial chairmen) to
4. Establish a provincial committee to
5. Convince one man (local chairman) in each local dental society to
6. Organize a local recruitment committee to
7. Spur individual dentists to action.

Provincial and local committees are completely free to innovate and make suggestions to the national committee, but a continuing flow of information and ideas should emanate from the national committee. Communication from the national level, preferably through personal contact, is necessary to keep the program alive.

Suggested responsibilities of the three levels of administration of the program include:

National Level

To provide stimulus and guidance to provincial and local committees.

To assist in the provision of resource material.

To promote recruitment at the national level.

To analyse and evaluate the program.

Provincial Level

To stimulate formation of local committees.

To establish and finance provincial programs (preferably through specifically budgeted funds).

To promote the use of appropriate materials and methods developed at any level.

To promote recruitment through non-dental organizations.

To make progress reports to the national committee.

Local Level

To form a committee or name an individual to take charge of recruitment efforts.

To develop and carry out local recruitment efforts using appropriate materials and methods.

To make progress reports to the provincial committee.

Publics or Audiences to be Reached by Program. — The recruitment program must be beamed at individual dentists, dental and allied organizations, secondary school students, vocational guidance counsellors, school authorities, parents, parent-teacher organizations, universities, non-dental organizations and government agencies.

It is worth repeating that personal contact is the best means of communication. Wherever possible the national recruitment program should be instituted by personal contact. For example, members of the national recruitment committee will personally visit provincial dental organizations and printed materials for school guidance counsellors should be delivered personally by local dentists. Dentists individually and collectively must make it known that they are actively interested in recruiting good students to dentistry and auxiliary fields.

PROVINCIAL ASPECT OF THE RECRUITMENT PROGRAM.

It is important to develop in each province an active provincial recruitment committee to cooperate with local and national recruitment committees. Probably the most important task of the provincial recruitment committee is to encourage and assist in the formation of local recruitment committees and maintaining continued interest and guidance.

Suggested Activities.

Encouraging formation of active local recruitment committees.

Providing resource material and methods for local committees and other distribution.

Cooperation with non-dental groups (government, parent-teacher organizations, science fairs, etc.).

Studying specific financial, educational and other problems connected with recruitment.

Follow-up of Canadian High News coupons.

Establishing means of financial aid for dental students.

Studying placement problems of particular areas.

Cooperating with dental schools.

Promoting recruitment in public addresses, interviews, etc.

LOCAL ASPECT OF THE RECRUITMENT PROGRAM

The first step is to form a recruitment committee in each local area. This committee should cooperate with provincial and national recruitment committees. The two most important tasks of the local committee consist in convincing fellow dental practitioners of the need to think and act positively about recruitment, and interesting young people in seeking careers in dentistry.

Suggested Activities

Consult provincial recruitment committee for guidance.

Become familiar with available resource material and methods.

Decide local distribution of resource material and distribute it by personal contact to school guidance counsellors, parent-teacher organizations, dentists, and others.

Encourage use of resource material by dentists in their offices.

Develop a system whereby dentists may report names of interested students for continued follow-up by the local or provincial committee.

Establish a speakers' bureau and, if necessary, provide training for the speakers who will be available for career talks to students and other groups.

Develop personal contacts with guidance counsellors, school principals and science teachers and offer to assist in bringing dentistry to the attention of students at every opportunity (science teachers may welcome information on dentistry as a subject for class projects or science fairs).

Encourage visits to dental schools and private dental offices.

Seek local support for financing the education of local dental students and/or placement of graduates.

PERSONNEL TO BE RECRUITED

The Committee believes that at the outset the recruitment program should be directed to the acquisition of students for dentistry and for those auxiliaries who receive training under university discipline.

ACTIVATION OF SUGGESTED PROGRAM

As the opinions and attitudes of individual dentists are important to the outcome of a recruitment program, the committee has authorized a survey of the profession to ascertain dentists' attitudes towards encouraging students to enter the profession. With this information a program directed to the profession can be more effectively instituted. Such a survey will shortly be undertaken.

In the meantime, key persons such as provincial secretaries, deans of dental schools, council members, and other officials will be acquainted with the proposed program and encouraged to participate. Provinces not yet possessing provincial recruitment committees are urged to create such committees at the earliest opportunity. The secretary of the national recruitment committee will institute a follow-up in this connection. A recruitment manual is being prepared and will be available in the near future to any group desiring it.

A recruitment bulletin will be published from time to time to disseminate pertinent information to provincial and local chairmen, to provincial secretaries and to members of the Council on Education.

The committee also recommends that the Canadian Dental Association apply to become a sponsor of the Canadian Science Fairs Council. A science fair is an annual exhibition by students of scientific projects, experiments or collections. The purpose of the science fair is to show graphically the scope and magnitude of the creativeness and enterprise of which young scientists are capable. Interest engendered by participation in a science fair encourages young people to consider careers in scientific fields.

RESOURCE MATERIAL AND METHODS

The committee carefully reviewed existing material including available motion pictures, brochures and pamphlets. The following listing of resource material and methods was developed:

Publications — Memoranda or bulletins from the national committee to provincial and local committees, questionnaires, pamphlets (for specific audiences and purposes), book-

lets, films, filmstrips, the professional and public press, kits (including a manual and displays).

Speakers — Local speakers' bureaux with trained speakers made available to groups, speech outlines.

Personal Contact. — Designated dentists should establish and maintain personal contact with those individuals and organizations to whom the program is directed. Dentist-counsellors should be made available to interested students. Local chairmen should use personal contact with their confreres, individually and collectively, to inspire enthusiasm for the program. Dentists should utilize opportunities for recruitment when in contact with their teenage patients.

Financial Aid. — This can be arranged either with governments and other groups or through dental organizations.

Tours. — Dental schools, and dental offices.

The Committee plans to revise certain existing pamphlets, including "Dentistry as a Professional Career," "Dentistry — Career Opportunities Unlimited" and "Dental Hygiene as a Career for Women." The filmstrip "Careers in Dentistry" is to be replaced with a coloured filmstrip or slides and a revised supporting script. Three motion pictures, "Pattern of a Profession," "Dentistry as a Career" and "A New Day in Dentistry" are available or will be acquired by the Canadian Dental Association library for recruitment purposes. An outline of a prepared address will be developed for inclusion with other resource material in the proposed recruitment kits to be made available through the Association. In due course a pamphlet to be directed to Canadian dentists will be prepared and distributed as soon as information from the proposed survey of dentists' attitudes has been completed. The one-page insertion on "Dentistry as a Career" will again be placed in the annual *Careers' Supplement* of *Canadian High News*. Because of shipping costs the committee did not consider actual construction of portable displays for use at career expositions as feasible. However, the committee proposes to secure and distribute photographs of existing or contemplated displays in order to assist provincial committees who might wish to prepare and construct such displays.

COMMITTEE CONSULTANTS.

The committee has recommended to the Council on Education that the Dental Hy-

gienists Alumnae Association and the Canadian Section of the American Dental Trade Association each be invited to name a consultant to the committee.

SUMMARY.

The national recruitment committee at-

tempted, at its initial meeting, to review background information and policies as a prelude to initiating direct and positive action on a national program. The committee proposes to pursue a course of action as outlined in the foregoing statement in the implementation of effective recruitment activities at national, provincial and local levels.

ANNUAL MEETING OF THE BRITISH COLUMBIA DENTAL ASSOCIATION, Kelowna, B.C., May 4-6, 1961.

CANADIAN SOCIETY OF DENTISTRY FOR CHILDREN, Annual Meeting of the Ontario Chapter, Toronto, Ontario, May 20, 1961.

ANNUAL MEETING OF THE ONTARIO DENTAL

ASSOCIATION, Toronto, Ontario, May 21-24, 1961.

ATLANTIC PROVINCES DENTAL CONVENTION, Charlottetown, Prince Edward Island, July 2-5, 1961.

ANNUAL MEETING OF THE DENTAL ASSOCIATION OF THE PROVINCE OF QUEBEC, Sherbrooke, P.Q., May 25-27, 1961.

Joint Meeting

THE CANADIAN DENTAL ASSOCIATION

and

THE WESTERN CANADA DENTAL SOCIETY

June 4 - 7, 1961

Bessborough Hotel, Saskatoon, Saskatchewan

DENTISTRY IN THE NEWS

Canada and the Provinces

ROYAL COMMISSION TO STUDY HEALTH

Prime Minister Diefenbaker has announced establishment of a Royal Commission on Health Services. Chairman is Chief Justice Emmett M. Hall of the Court of Queen's Bench in Saskatchewan. It is expected that four more members will be appointed to the commission.

The commission's terms of reference will likely include a study of the adequacy and availability of personal health services for prevention, diagnosis, treatment and rehabilitation. The commission is expected to make recommendations on ways and means of remedying existing deficiencies in health services.

In announcing the commission, Mr. Diefenbaker said representations had been made to the government emphasizing the need for "a comprehensive study of Canada's national health requirements, and the existing deficiencies in health care, with a view to consideration of the establishment of a national health plan". Following is the text of a letter received by the Prime Minister from the Canadian Medical Association:

December 12, 1960.

The Right Honourable John G. Diefenbaker,
Prime Minister of Canada,
Ottawa, Ontario.

Dear Mr. Diefenbaker:

The concern of the medical profession of this country in making personal health services available to our fellow citizens has been demonstrated by the establishment, under medical auspices, of 11 voluntary plans of prepaid medical care which now provide benefits for over 4 million persons. The Canadian Medical Association is conscious of a quickening of public interest in the whole area of health services, including the application of insurance methods of defraying the costs of medical services for all.

The issues involved are difficult and complicated and we regard it as a matter of considerable importance that a study be undertaken by a body which will command the respect of all Canadians in order that future plans and decisions be arrived at wisely and objectively.

I am therefore directed to request that there be established a royal commission or other agency

under the authority of part I of the Inquiries Act for the purpose of assessing the health needs and resources of Canada with a view to recommending methods of ensuring the highest standard of health care for all Canadians.

The recent distribution of the attached statement on medical services insurance to members of the House of Commons and the Senate of Canada has elicited replies which indicate a lively interest and I infer that the appointment of a commission such as we are suggesting would receive the support of parliament.

I would assure you that a study undertaken under a royal commission would receive such aid and co-operation as this association is able to render and that the medical profession would welcome the opportunity of providing information based on its experience and its obvious interest in all phases of health.

Yours sincerely,

A. D. Kelly
General Secretary

Indications are that organizations representing the health professions will become deeply involved in increased activity as the result of establishment of the commission.

NEW BOARD MEMBERS SELECTED

Three provinces have selected new representatives to the Board of Governors of the Canadian Dental Association.

J. F. Edgcombe of Saint John succeeds W. B. O'Brien as representative of the New Brunswick Dental Society. Dr. O'Brien has completed a two-year term on the Board.

Since J. P. Whyte is now Association president, the College of Dental Surgeons of Saskatchewan is entitled to name a successor to represent Saskatchewan dentists. A. D. Leask of Moose Jaw has been chosen to act in this capacity. Dr. Whyte represented his province for ten years before assuming the presidency.

A. L. MacIsaac of Charlottetown, has been named to represent Prince Edward Island on the Board. His predecessor, J. D. Reddin of Mount Stewart, served for two years.

The new members will attend for the first time in their official capacity when the CDA Board of Governors meets in Saskatoon next June prior to the national convention.

SUPREME COURT DISMISSES TECHNICIAN'S APPEAL

The Supreme Court of Canada has dismissed an appeal from a judgement of the Appellate Division of the Supreme Court of Alberta, arising out of a conviction against S. G. Vail for practising dentistry "for hire" contrary to provisions of the Dental Association Act of that province.

Vail, a dental mechanic at Drumheller, made and fitted dentures for a man named Hill. During Hill's visits to Vail's office, impressions were taken, bite blocks were used to determine the relation of upper and lower jaws, teeth were set up in wax and placed in his mouth and finally the plates were put in his mouth. All of this work was done by Vail. Hill paid Vail a total of \$90.00.

Vail contended that he received payment only for manufacture of dentures and not for doing any of the things itemized in the Act as constituting the practice of dentistry if done for a "fee, money or compensation". The Alberta Appellate Division held that his conduct constituted practising dentistry as defined.

The Supreme Court of Canada agreed and added that the dental work was done "for hire" in another sense. This court said that "for hire" includes any kind of compensation or reward, not just money. The court contended that even if it could be said that Vail received no money for doing the work of a dentist, he was compensated by receiving a profitable order for his work as a dental mechanic.

F.A.C.D. TO THREE CANADIANS

Three Canadian dentists were honoured with fellowships of the American College of Dentists at its recent convocation in Los Angeles. The new Fellows are Harold W. Hart of Winnipeg, and James D. Purves and Charles H. M. Williams of Toronto.

SECOND PROVINCIAL SECRETARIES CONFERENCE HELD

The second annual conference of secretaries of provincial corporate members of the Canadian Dental Association and provincial dental associations was held at Association headquarters on January 9-10, 1961. A review of

some of the current problems facing the profession in the different provinces indicated that rising public demand for dental care, varying shortages of dental personnel, maldistribution of available dental personnel, adverse public relations, and concern with methods of payment for dental care are more or less common to all the provinces.

The conference endorsed the efforts of the Committee on Specialists and Specialization aimed at the establishment of a national board for the certification of dental specialists in Canada and commended the recommendations of this committee to the provincial corporate members.

The conference gave consideration to the practice followed by the different corporate members in the selection of delegates to the Board of Governors of the Canadian Dental Association. General agreement was expressed with the various mechanisms utilized for this purpose and the conference could not support the contention that these constitute the source of a certain apathy which some dentists display towards the profession, particularly on a national level. However, this matter will be kept under review.

Some of the provincial secretaries expressed concern over the rising number of complaints from patients received in the offices of corporate members relative to dental services received at the hands of dental practitioners. It was observed that a considerable proportion of these complaints relate to younger members of the profession. The conference recommended that the executives of the corporate members urge the Executive Council of the Canadian Dental Association to instruct the Council on Education to study this matter and to take such measures as may be required to adjust or amplify courses of instruction in dental schools relative to the social obligations of the profession, determination of fees, etc.

The conference gave consideration to present practices relating to licensure in the various provinces. A resolution recommending that the Council on Education examine the feasibility of promoting conjoint examinations at the various dental schools which would satisfy the requirements of the National Dental Examining Board of Canada and of the various dental faculties was approved, with one member abstaining and one member opposed.

The conference recommended that the Canadian Dental Association establish a list of registered dental hygienists on a similar basis to the present list of dentists in Canada.

The conference also expressed its support

for a vigorous national dental recruitment program as outlined by the National Recruitment Committee of the Council on Education.

ALBERTA

Alberta Dental Association Considers, Acts on Many Problems.—The fall meetings of the Board of Directors, Alberta Dental Association was held in Calgary, October 14-15, 1960.

The Committee on Legislation reported encouraging response from its contacts with the provincial Minister of Health in respect of the association's part in the dental volunteer program for rural health units and in the dental auxiliaries' measure.

The Board desires to establish a scholarship program for dental auxiliaries and a bursary assistance program for dentists intending to enter the field of dental public health. Association members have been invited to seek prospective candidates for the new dental auxiliaries' course commencing at the University of Alberta in September 1961. The Dental Student Recruitment Committee under the chairmanship of Dr. R. R. McIntyre has divided the province into local areas, designating local chairmen who have been provided with speakers' charts, booklets, copies of the "Admission Requirements to the Faculty of Dentistry, University of Alberta", and other materials. These local chairmen are prepared to assist any dentist who is called upon to address meetings of community organizations, service clubs, and the like.

Edmonton and District Dental Society.—Local clinicians who presented table clinics at a meeting of the society held on December 2, 1960, included: R. B. Cameron and D. Stuart—appliances in periodontics; D. S. Gilmour—occlusal equilibration; R. B. Hager and J. E. M. Young—aesthetic considerations in prosthodontics; P. D. MacRae—orthodontic appliances; S. D. Fraser, A. D. Fee, R. C. McLelland and A. E. Urshel—prosthodontics; and C. R. Castaldi and B. J. Eastwood—paedodontics.

A motion picture demonstrating the Audiac audioanalgesic equipment was also presented. The combined afternoon and evening program was arranged by Dr. N. Basaraba.

BRITISH COLUMBIA

Specialty Certification.—The Council of the College of Dental Surgeons of British Columbia has adopted the following procedure for existing specialists who wish to become certified:

- (a) The examination in each specialty will be at the discretion of the examiner. It is expected that examination will essentially consist of a stated number of case reports with models, radiographs and appliances, as well as an oral examination.
- (b) These examinations will be conducted by specialists representing the four (recognized) specialties.
- (c) No application will be acceptable after July 11, 1961, for this group, and examinations will be conducted as soon as feasible after that date.

B.C. Dentists Named to Civic Office.—Dr. Walter Julian was elected by acclamation to the Board of School Trustees of New Westminster. In Dawson Creek Dr. Vern Erickson was chosen for a similar office. Dr. Ludlow Beamish again captured his seat on the Burnaby School Board, and Dr. N. L. Crabtree was elected school trustee in Chilliwack.

A referendum on Trail on fluoridation of the communal water supply was defeated, with 720 in favour and 1,109 opposed to the measure.

Vancouver and District Dental Society.—The president, Dr. J. H. Merrell, conducted the meeting on December 6, 1960, when a well-known dentist from Salt Lake City, Utah, Dr. E. O. Thompson spoke in the afternoon and evening on the subject "Increased Dental Operating Efficiency and the Washed Field Techniques".

At the request of the essayist dental assistants were invited to both sessions, and many of them remained for dinner.

Reports given during the business session included those of Dr. M. Nacht for the Council of the College of Dental Surgeons of British Columbia, Dr. J. Lewis for the British Columbia Dental Association and Dr. I. I. Glasgow for the sick and visiting committee.

NEW BRUNSWICK

New Brunswick Dental Society.—The annual business meeting of the society was held on

October 29, 1960, under the chairmanship of Dr. P. M. Clarke, president. Committee reports were adopted and it was decided to increase the annual non-resident inactive membership fee to \$20.00. The preparation of a detailed dental welfare plan for indigent children up to age 16 was authorized. This will be presented to a future meeting of the society council prior to its presentation to the provincial government. The report of the Nominating Committee was presented by past-president D. C. Steeves. The following officers were elected for the coming year: A. J. Coughlan, honorary life president; B. S. Cyr, president; H. F. Bonnell, vice-president; R. F. Sansom, secretary-treasurer; R. Levesque, J. J. E. Allain, K. A. Hetherington and C. B. Allaby as area council members; B. Dugay, A. Stenerman, J. A. Chouinard and D. E. Williams as additional council members; J. F. Edgecombe as delegate to the Board of Governors of the Canadian Dental Association; and R. B. DeWare as delegate to the National Dental Examining Board.

NEWFOUNDLAND

C.D.A. President and Secretary Visit Eastern Province.—The president and secretary of the Canadian Dental Association visited the Newfoundland Dental Society on the occasion of the second Fall Seminar at St. John's, Newfoundland, December 2-3, 1960. Dr. Whyte and Dr. Gullett reviewed activities pertaining to dentistry in every part of Canada with members of the provincial society on Friday, December 2. Following visits to City Hall and the provincial government's new Confederation Building, the society members, wives and guests were welcomed at a reception tendered by the president of the Newfoundland Dental Society, Dr. J. Hann.

Speaking to the Newfoundland Dental Society on Saturday, both Dr. Whyte and Dr. Gullett stressed the socio-economic problems facing the profession, and pointed to the direction in which progress is being made in overcoming these problems.

The scientific program held on Saturday, December 3, at the Hospital for Mental and Nervous Diseases, St. John's was supplemented by clinical presentations and social activity. Lt. Col. A. T. Rogers, R.C.D.C., Commanding Officer, No. 12 Dental Company, Halifax, outlined surgical procedures which can be advantageously employed prior to the insertion of dentures. Dr. W. O'Driscoll reviewed radiographic interpretation in dentistry and Dr. W. Green spoke on jacket

crown preparation. The Fall Seminar concluded with a dinner dance at the Old Colony Club.

NOVA SCOTIA

Nova Scotians Appointed.—J. M. Dewis has been appointed treasurer and P. S. Christie has been appointed to the executive of the Canadian Dental Association.

The Nova Scotia Dental Association has appointed W. H. Macneil and J. F. Burke to the board of directors, Canadian Dental Service Plans Inc. A Committee on Recruitment has also been established. A. B. Haverstock is chairman and L. B. Layton, L. J. Israel, R. H. Bingham, T. L. Rogers and A. H. Ervin are committee members.

ONTARIO

Royal College of Dental Surgeons of Ontario.—One new member, Dr. H. M. Jolley of Toronto, joined the Board of Directors as a result of the recent elections conducted by the College. The Board of Directors for 1961-63 is comprised of J. P. Coupland of Ottawa, District 1; R. C. Honey of Peterborough, District 2; M. V. J. Keenan of Sudbury, District 3; H. M. Jolley of Toronto, District 4; W. J. Bruce of Kincardine, District 5; D. J. Ferguson of London, District 6; J. R. Hurton of Brantford, District 7; A. H. Leckie of Hamilton, District 8; and J. D. Purves from the Faculty of Dentistry, University of Toronto. W. J. Dunn is Registrar-Secretary-Treasurer.

The retiring Board held its final meeting from November 21-23, 1960. Eight reports and one brief were considered at this meeting. A workshop conference on the "Role of Auxiliary Personnel in Dentistry" was authorized. A steering committee, comprising A. E. Diprose, a past member of the Board of Directors, F. H. Shepherd, a past president of the Ontario Dental Association, and W. G. McIntosh, a past president of the Canadian Dental Association, was named to organize this workshop conference at an early date.

Also considered were the report of the dental consultant to the Ontario Workmen's Compensation Board; the recommendations of the Canadian Dental Association's Committee on Specialists and Specialization regarding establishment of a Royal College of Dentists of Canada; group purchase plans for prepaid dental care; tentative legislation relative to radiation hazards; the evening

course for dental technicians to commence in October 1961 at the Provincial Institute of Trades, Toronto, under the sponsorship of the College and the Governing Board of Dental Technicians of Ontario; possible retention of a public relations counsel; and a brief submitted by the Hamilton Dental Association seeking the support of the Board for a recommendation to McMaster University that present expansion plans to establish a Faculty of Medicine and a University Hospital be amended so as to include a Faculty of Dentistry.

R.C.D.S. Newsletter. Number one of the "RCDS Newsletter" has been sent to all members of the Royal College of Dental Surgeons of Ontario. Thus Ontario is added to the growing list of provinces issuing newsletters or bulletins to its dentists.

Because of its usually convenient size and easy-to-read format, this type of publication provides a good means of communication between dental organizations and their members.

Toronto Academy Winter Clinic.—The 1960 Winter Clinic of the Academy of Dentistry, Toronto was held on November 24, 1960 at the Royal York Hotel, Toronto. 561 dentists registered for this event, together with 15 dental hygienists and final year students in dentistry and dental hygiene at the Faculty of Dentistry, University of Toronto. As usual, there were two American guest clinicians, Dr. Earl E. Shepard of the University of Washington, St. Louis, Missouri, and Dr. Wallace J. Gardner of Cambridge, Massachusetts.

Dr. Shepard gave two 2-hour clinics on "Interceptive Orthodontics". This clinic covered the discussion of orthodontics such as can be successfully practised in a preventive or interceptive manner, including the clinical aspect and the points of diagnostic importance which concern success or failure in orthodontic therapy. Dr. Wallace J. Gardner gave two clinics on "Audioanalgesia". Dr. Gardner is one of the originators of this procedure and he gave a complete discussion followed by a motion picture demonstrating its clinical application.

The Academy of Dentistry was fortunate in obtaining eight distinguished group clinicians from its membership, as well as a guest clinician from London, Ontario — Dr. P. E. Currie — who gave a clinic on "Priority in Interceptive Orthodontics". The Toronto group clinicians were Dr. C. H. Moses — "Complete Denture Procedure"; Dr. Alan S. Brown — "Complications in Office Oral Surgery"; Dr. Robert A. Clappison — "Some Refinements in Crown and Bridge Prosthodontics"; Dr. Robert E. Diprose —

"Oral Diagnosis"; Dr. D. Blake McAdam — "Two Considerations in Crown and Bridge Procedures"; Dr. Gordon Nikiforuk — "The Use of Fluorides in Preventive Dentistry"; Dr. F. J. Servos — "Aetiology of Periodontal Disease"; and Dr. Calvin D. Torneck — "Endodontic Management of Multi-Rooted Teeth". Each of these clinics was given once in the morning and once in the afternoon.

The luncheon speaker was Mr. Joel Aldred, a familiar name on Canadian and American television, who is president and general manager of CFTO-TV, Toronto's new television station. Mr. Aldred spoke on the general subject of "Canadian Television — 1961".

From 4.00 to 6.00 p.m. there were commercial exhibits given by thirty-four companies, and these were re-opened for the evening session from 8.00 to 10.00 p.m. The dinner speaker, Dr. J. A. Whyte of Swift Current, Saskatchewan and president of the Canadian Dental Association, was gracious enough to speak to the gathering before starting out immediately on his tour of Eastern Canada. From 8.00 to 10.00 p.m. in the evening, 17 table clinics were presented on prosthodontics, dental hygiene, orthodontics, practice management, oral surgery, endodontics, pharmacy (given by two members of the Faculty of Pharmacy, University of Toronto), radiodontics, paedodontics and dental public health. As well as the clinical presentations, displays were presented by the Ontario Division of the Canadian Cancer Society, and the Dental Nurses' and Assistants' Registry, operated by Mr. Ian Hannah in Toronto.

The Toronto Affiliated Association of the Ontario Dental Nurses' and Assistants' Association and the Dental Nurses' Alumnae Association also presented a full program for their members.

QUEBEC

Montreal Dental Club. — The fourth annual Black Tie Dinner of the Montreal Dental Club was held on Wednesday, December 7, 1960 at the Mount Steven Club. This is an event which provides an opportunity to honour members of the Montreal Dental Club who have completed thirty-five years in the practice of dentistry. Those members so honoured this year were: H. Baxter, D. MacRae, H. Benson, V. Jekyll, I. K. Lowry and A. Mitchell. Dr. Jekyll, in presenting his confreres to the club, recounted some of their achievements over the years. He also outlined some of the achievements of dentistry during the last thirty-five years. Dr. Mitchell responded to the address with some of his own recollections of past events.



Members of the Montreal Dental Club who recently received Honorary Membership. Left to right: Dr. D. MacRae, Dr. I. Lowry, Dr. V. Jekyll, Dr. H. Benson, and Dr. A. Mitchell. Also honoured was Dr. H. Baxter, not present in this picture.

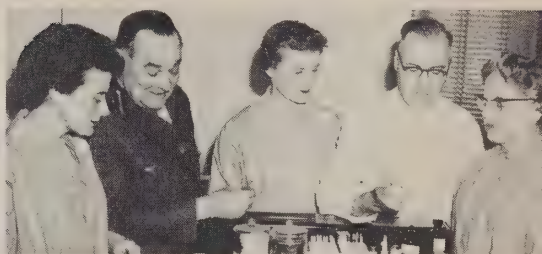
The featured speaker of the evening was Dr. S. Shamy, one of the club members. Dr. Shamy related his experiences and some of the impressions resulting from a visit to Russia which he made during the spring of 1960. As well as being shown a motion picture of his tour, club members were given a description of the people, living conditions and the practice of dentistry in Russia at the present time.

A thoroughly interesting and enjoyable evening marked this, the last meeting for the year 1960.

American Academy of Dental Medicine, Montreal Section.—A meeting of the Montreal section of the American Academy of Dental Medicine was held in the Cercle Universitaire de Montréal on Monday, November 28, 1960 with the president, Dr. P. J. Gitnick presiding. The speaker of the evening was one of the Academy members, Dr. R. M. Wiener, senior associate at the Jewish General Hospital and clinical assistant at the Montreal General Hospital in oral surgery. Dr. Wiener, who is well qualified in his subject by virtue of an M.Sc. degree in oral pathology from the University of Chicago, presented a well-illustrated paper on "Lesions of the Mouth."

Dr. Wiener dealt with the clinical and pathological aspects of simple tongue changes associated with infection, with malignancy, with hormonal oral changes, with blood dyscrasias, with simple and complex herpetic infections, etc.

R.C.D.C. Demonstration at St. Mary's Hospital, Montreal—The Royal Canadian Dental Corps is instrumental in presenting various demonstrations to the civilian profession from time to time. Recently, members of



Col. T. L. Marsh and Major A. R. Ramsay instruct Volunteers at St. Mary's Hospital, Montreal.

the Department of Volunteer Services at St. Mary's Hospital, Montreal, who act as dental assistants at clinics for obstetrical and haemophiliac patients, benefited from a dental clinic demonstration conducted by Colonel T. L. Marsh and Major A. R. Ramsay in association with Dr. Marcel Hebert. These volunteers are recruited from the Auxiliary of St. Mary's Hospital and from the Junior League of Montreal.

College of Dental Surgeons of the Province of Quebec.—Thirty-four dentists were elected on December 31, 1960 to the Board of Governors of the College for a four-year term. The first meeting of the new Board was held on November 25, 1960. Dr. Jean-Paul Lachapelle, the retiring president, extended a warm welcome to the new Board members.

Elected to the executive council were: Remy Langlois, president; Henri Brouillet, first vice-president; D. B. Ward, second vice-president; J.-P. Lachapelle, immediate past president; R.-M. Le Blanc, Registrar; Edmond Dansereau, Assistant Registrar; H. T. Oliver; J. Zimmerman; L. Picard; V.-A. Dubé; R. Charette; J.-A. Giroux; M.-B. Archambeault and L. Bernier.

The following committee chairmen and representatives were appointed: H. Brouillet, M. A. Rogers and C. De Grandmont, Discipline Committee; V.-A. Dubé, Illegal Practice Committee; R. Langlois, J.-P. Lachapelle, J. M. Chamard and L. Bernier, the Board of Governors of the Canadian Dental Association; H. Brouillet, Examiners' Commission; R. Langlois and R.-M. Le Blanc, Legislation Committee; C. Bouillon, Dental Public Health Committee; V.-A. Dubé, J. Guimond, H.-M. Robichaud and M. A. Rogers to the Education Committee of the Association of Dental Technicians of the Province of Quebec;

M.-B. Archambault, Public Relations Committee; L. Bernier, Health Insurance Studies Committee; A. G. Racey, National Dental Examining Board of Canada; H. T. Oliver, Specialists' and Specialties' Committee; J.-P. Lussier, Committee on Dental Hygienists; R.-M. Le Blanc, Committee on the Admission of Dentists to Hospital Practice; R. Langlois, R.-M. Le Blanc, J. McCutcheon, R. M. Wiener, G. de Montigny, J.-A. Giroux and G. Chesnay as representatives to the Quebec Hospital Association; G. Ratté, Quebec Workmen's Compensation Commission; G. Ratté, Student Recruitment Committee; R.-M. Le Blanc, "Informations" Publications Committee; and J.-P. Lachapelle, Commission on Education.

SASKATCHEWAN

College of Dental Surgeons of Saskatchewan.

—The annual fall meeting of the Council of the College was held in Saskatoon, November 19 and 20, 1960. In attendance at this meeting was Dr. J. P. Whyte, president of the Canadian Dental Association. New members elected to the Council were E. N. F. Jenkins, Estevan; L. N. Kjørven, Eston and D. M. Parker, Regina.

The Council gave approval to the preparation of a brief entitled "Dental Health Problems in Saskatchewan" for submission to the Advisory Planning Committee on Medical Care established by the provincial government. The Council also approved the registration without examination of dentists who have graduated from Canadian dental schools since January 1950.

Appreciation for excellent services rendered to the Council was extended to B. Bookhalter, R. O. Brett and A. D. Leask whose terms have recently expired. Honorary life membership was granted to Dr. R. H. Chant of Foam Lake who has practised for fifty years in Saskatchewan. Officers elected for the ensuing term were: J. J. Schachter, president; W. L. Clark, vice-president; and F. R. Smith, secretary.

Saskatoon Dental Society. — Dr. D. B. Law, associate professor and executive officer, Department of Paedodontics, University of Washington, presented a two-day clinic to Saskatoon dentists on November 21-22, 1960. Dr. Law dealt with some aspects of his recent research work in pulp capping and treatment. Excellent transparencies illustrated the various aspects of his presentation.

International Items

FEDERATION DENTAIRE INTERNATIONALE

Proposed Auxiliary Personnel Terminology. — The F.D.I. Commission on Public Dental Health Services is preparing a standard terminology for auxiliary dental personnel which can be adopted in all F.D.I. publications and deliberations. In developing this terminology the Commission examined the titles of auxiliary personnel used in the report of the WHO Expert Committee on Auxiliary Personnel. The Commission did not agree with all the WHO designations and plans to submit alternative terminology to the F.D.I. General Assembly in Helsinki, July 9-15, 1961. The following provisional list has been prepared and readers are invited to send their comments to Dr. Freihofer, president of the F.D.I. Commission on Public Dental Health Services, 15 Tödistrasse, Zürich, Switzerland.

1. Personnel not rendering treatment:
Dental Assistant — assistante dentaire
Dental Laboratory Technician — mécanicien dentiste
2. Personnel rendering treatment:
Dental Hygienist — hygiéniste dentaire
School Dental Nurse — infirmière dentaire scolaire
Dental Therapist — dentiste de formation primaire
Dental Aide — aide dentiste

The term dental therapist is proposed for a type of personnel trained in two years in countries receiving little or no dental care. The term dental aide is proposed for a type of personnel who could be trained, as an interim measure, to render relief of pain by extraction of affected teeth in such countries until a sufficient number of dental therapists can be trained.

49th Annual Session of the F.D.I. — Helsinki, Finland will be host city to the 49th Annual Session of the Fédération Dentaire Internationale, July 9-15, 1961. A full program embracing scientific sessions, motion picture presentations, table clinics, a military conference and commission meetings will be held in the School of Economics. Dr. A. Scheinin is chairman of the Organizing Committee. The social program and ladies' program includes excursions designed to acquaint visitors with the beauty of Finland's countryside, lakes and coasts.

INDONESIA

Visit of the American Floating Hospital "HOPE" — The S. S. Hope commenced a six-month visit to Indonesia on October 19, 1960. The property of the American "People to People Foundation", a private organization established with the initiative of Ex-president Eisenhower, the function of this teaching and training ship is to assist medically people in less fortunate parts of the world. On board are physicians, dentists, nurses, dental hygienists and other vitally needed personnel who will teach and demonstrate to native health workers in Southeast Asia. During her stay in Indonesian waters the S.S. Hope is first visiting the capital, Djakarta. Early in 1961 she will commence visits to the outlying islands which make up this island country — Soembawa, Makassar, Ambon, Kupang, Lombok and Semarang. In addition to teaching and training sessions on the ship, the Indonesian and American personnel on board will divide up into teams and go inland in an effort to reach as many native pupils as possible.

The need for dentists is great in Indonesia. There are only 450 dentists to serve a population of 86 million people. The country's three dental schools cannot produce enough dentists to meet the demand.

UNITED STATES

Dental Education Fund Offers Fellowships. — Four teaching fellowships paying a stipend of \$3,600 to \$5,000 will be available from the Fund for Dental Education during 1961 to persons wishing to prepare themselves for careers in dental education. Maynard K. Hine, president of the Fund, has announced.

Application for these fellowships may be made during the first quarter of 1961, January to March, on forms secured through the dental school deans or direct from the Fund office at 840 N. Lake Shore Drive, Chicago 11, Illinois.

With the addition of two fellowships recently established, the following awards are available to dentists or dental seniors planning to enter dental teaching: the American Dental Association Teaching Fellowship of \$5,000 which is sponsored by The Great-West Life Assurance Company; the American Dental Trade Association Teaching Fellowship of \$3,600; and two Fund for Dental Education Teaching Fellowships of \$3,600 each.

Applicants must be graduates of dental

schools in the United States or Canada and must be prepared to submit academic records showing they are qualified to enroll in graduate dental education programs. Applicants are required to sign a statement indicating they expect to become dental teachers upon completion of the following training.

WORLD HEALTH ORGANIZATION

Expert Committee on Periodontal Disease. — Dental health specialists met in Geneva, Switzerland in August 1960 for a conference convened by the World Health Organization on the problem of periodontal disease. Dr. A. L. Russell of the United States Public Health Service was chairman of a committee composed of: Prof. F. A. Carranza (Argentina), Dr. R. D. Emslie (United Kingdom), Prof. A.-J. Held (Switzerland), Dr. J. Kostlan (Czechoslovakia), Dr. S. Swellim (United Arab Republic), Prof. K. L. Shourie (India). Also present were, Prof. B. Cohen (United Kingdom) and Prof. J. Waerhaug (Norway) as consultants, and Dr. F. Bruce Rice and Dr. L. Verhoestraete of WHO. Replies from 14 countries to a questionnaire on periodontal disease which had been circulated by the Fédération Dentaire Internationale were considered by the Committee.

Canadian Dental Schools

UNIVERSITY OF MANITOBA

Staff Notes. — One of the functions of a dental faculty is to disseminate knowledge, not only to the undergraduates at the school but also to interest practitioners and fellow scientists. It is therefore a great pleasure to record that the services of a number of staff members of the Faculty have been used in this way.

The dean, Dr. J. W. Neilson has always been active and he has managed to fit into an already crowded timetable two outside lectures during the current academic session. In September 1960 he presented a paper before the annual meeting of the Canadian Dental Association in Ottawa entitled "Manpower in Canadian Dentistry — Technicians", and in October he addressed the American Academy of Gold Foil Operators in Los Angeles on "A Periodontist's Restorative Reflections".

Dr. H. W. Hart, professor of Prosthodontics gave a paper in Ottawa and presented a table clinic on "Audio-Visual Methods in Undergraduate Teaching".

Dr. J. R. Trott also addressed the Canadian Academy of Periodontology in Ottawa. The subject of his paper was "The Glycogen Content of the Gingiva".

Further afield, Dr. F. J. Marshall attended the meeting of the Society of Nuclear Medicine at Estys Park, Colorado, in June, and read a paper on "The Radioisotope Evaluation of the Pulpless Tooth", whilst Dr. C. H. Dowse attended the Gordon Research Conference on Bones and Teeth at Minden, New Hampshire and gave a paper on "The Metabolism of Bone Cells". More recently, Dr. Kasloff was the guest of the Montreal Dental Club, where he gave a paper on "Practical Crown and Bridge Procedures".

Closer to home, Dr. W. Schram addressed the Western Manitoba Dental Society on "Exodontia and Oral Surgery", whilst Dr. J. R. Trott presented a paper before the Winnipeg Dental Society on "Acute Infection of the Gingiva".

These outside activities give great pleasure to the Faculty, even though they mean a considerable amount of preparation. It is hoped that, as the new school settles down into a routine, more of the staff will be available for the presentation of clinics and papers, not only in Canada but also the United States.

Honour to Dr. H. W. Hart. — At a recent meeting of the American College of Dentists in Los Angeles, Dr. H. W. Hart was elected a Fellow. It gives great pleasure to the Faculty that such an honour should be bestowed upon Dr. Hart.

Royal Canadian Dental Corps

PROMOTIONS AND COMMISSIONS

Army Headquarters has announced the promotion of Captain I. A. C. MacDonald to the rank of Major.

Major MacDonald, a native of Marmold, P.E.I., graduated from Dalhousie University in 1950. He was granted a commission in the rank of Captain in 1953 and served in No. 12 Company, R.C.D.C., Eastern Command. Major MacDonald, accompanied by his wife and two children, is currently serving in 35 Fd. Dental Unit, Metz, France.

Army Headquarters has also announced the promotion of W.O.1 H. F. Doyle to the rank of Lieutenant effective 22 Dec. 60.

R.C.D.C. FLASHBACK

Camp Barriefield, Ontario, August, 1942.

Courtesy of Dr. W. M. Myles, Ottawa.



Lieutenant Doyle, a stores officer, was born in Saint John, N.B. and joined the C.D.C. in November, 1940. He is currently stationed at No. 1 Dental Equipment Depot, Petawawa, Ont., where he resides with his wife and one child.

COURSE ATTENDANCES

The following dental officers have attended or are attending courses as indicated:

Major P. S. Sills — Advanced Dentistry Course, 4 months, at Walter Reed Army Medical Center, Washington, D.C.

Capt. J. I. Gordon — Partial Denture Course, at U. S. Naval Dental School, Bethesda, Md., U.S.A.

For the first time dental officers of the U. S. Navy and U. S. Army attended clinical courses held at The R.C.D.C. School, Camp Borden.

Commander L. M. Armstrong and Lt.-Col. J. E. Lancaster attended the course held in January-February and Lt.-Com. S. O. Bartlett and Major D. E. Schwartz are expected to attend the course to be held in February-March.

POSTINGS

The following postings of dental officers have taken place recently:

Major P. H. Guevremont to Montreal following completion of a one-year tour aboard H.M.C.S. Bonaventure.

Capt. P. J. J. Coulombe to R.C.A.F. Station, Clinton, Ont. from Camp Shilo, Man.

Public Health

NEW APPOINTMENTS

Dr. F. M. Brunton has been named regional dental consultant for Central Vancouver Island, Upper Island, Saanich and South Vancouver Island with headquarters in Nanaimo. An elementary and secondary school teacher before embarking on his dental studies, Dr. Brunton graduated from the University of Oregon Dental School in 1950. He practised in Vancouver from 1950-58.

Dr. V. E. Potter, a graduate of McGill University, has been appointed to succeed Dr. H. L. Murray as dental-officer of the Sturgeon Health Unit, Alberta. Dr. Potter is a native of Medicine Hat. Since graduation in 1949, he has been in private practice in Montreal where he also held part-time teaching appointments at McGill University. On returning to Alberta, Dr. Potter gained experience in public health work with the Wetoka Health Unit prior to assuming his present appointment. Dr. C. J. Yaskowich, a graduate of the University of Alberta replaces Dr. Potter as dental officer of the Wetoka Health Unit.

ONTARIO PUBLIC HEALTH DENTISTS ELECTED

At a meeting of the Ontario Association of Public Health Dentists held in Toronto on November 25, 1960 the following officers were elected for the ensuing year: H. S. Grey, chairman, and J. W. M. Lawrence, secretary.

The Association reviewed the formula for dental health personnel allocation to population in the provision of diagnostic and educational dental programs. Dr. M. E. Jarrett of Fergus, Ontario was instructed to draft a statement on this subject which the Association plans to submit to provincial and federal health grant authorities.

BOOK REVIEWS

Dentistry in the United States—Status, Needs, and Recommendations

Prepared by: Commission on the Survey of Dentistry in the United States.

Published by: The American Council on Education, Washington, 1960.

Pages: 68.

Price: \$1.00.

This is a summary of the results of the Survey of Dentistry in the United States conducted between 1957-60. The Survey was undertaken at the request of the dental profession to determine whether it is fully meeting its current and prospective responsibilities, to suggest desirable areas of future development, and to recommend methods for the better provision of dental health services to the American public.

The project was conducted by the American Council on Education and financed by grants from the W. K. Kellogg Foundation, the Rockefeller Brothers' Fund, the Louis W. and Maud Hill Family Foundation and the American Dental Association.

The introductory remarks by Arthur S. Adams, president of the American Council on Education give a brief description of the events which resulted in the undertaking of this Survey. Establishment of the Commission, first under the chairmanship of the Honorable Arthur S. Fleming, subsequently under Dr. John A. Perkins, is described. The Commission had the ultimate responsibility for directing the work and for making recommendations. Also described is the appointment of the staff of the Survey under the direction of Dr. Byron S. Hollinshead.

Establishment of four expert committees on dental (public) health, dental practice, dental education and dental research is described by Dr. Perkins in a brief preface. The work of these four committees contributed greatly to the work of the Commission. The Survey also benefited from twenty-four special studies, many of them based on data collected by the Commission, some of them sponsored and financed by the Commission, and others of such a close relation to the work of the Survey that they were made part of the study.

The Commission noted that Americans are astonishingly neglectful of their teeth despite

a high standard of living; that 90,000 practicing dentists are inadequate to meet the needs of an expanding American population; and that despite the country's great wealth, many citizens are unable to pay for comprehensive dental care. The Commission strongly deprecated continuing antagonism to water fluoridation and reluctance on the part of many dentists to use dental auxiliaries for less demanding tasks.

The Commission proposes a gradual increase in capital expenditures for dental schools, support of these schools, water fluoridation, dental care for school children and dental research from the present 45 million dollars per year to about one billion dollars per year by 1972. Creation of a nation-wide incremental dental care program for children calls for the greatest expenditure. This, the Commission estimates, would cost \$120 million the first year for the first cohort of some 4 million six-year-olds. After that the cost would increase gradually over 11 years, levelling off at an annual total of a little over \$940 million for the twelfth and succeeding years.

Among the many other recommendations was one that the American Dental Association, the United States Public Health Service and state and local public health agencies and dental societies expand their dental health education activities and make better use of trained health educators. The Commission also urged further expansion of plans to facilitate group purchase of dental care. Noting the dentist's traditional lack of administrative experience, a strong recommendation was made that dental schools and schools of public health provide instruction in administrative methods which could be useful in education, research, dental care management and for those who become engaged in administrative dentistry.

Increased participation in community public health projects and emphasis on preventive dentistry in dental practice were urged so as to narrow the gap between need and effective demand for dental treatment. General utilization of dental auxiliaries, as well as studies to develop and expand the duties of auxiliary personnel, were recommended to increase the productivity of dental practices. The Commission called for a

more objective approach to the setting of fees, the acceptance of National Board of Dental Examiners' examination results by all states in lieu of their own written examinations, and greater use of hospitals for dental practice accompanied by a recognition of dentistry in hospital organization and prepayment plans.

Another recommendation proposed expansion and addition of dental schools and a national recruitment program so as to double the present annual output of graduates to 6,000 dentists by 1975. The Commission criticized the quality of some students presently admitted to dental schools and recommended review of admissions standards. It also recommended improvement in the quality of instruction and greater flexibility in the content of undergraduate dental courses, broader instruction in the establishment and administration of a dental practice and more undergraduate experience in working with auxiliary personnel. Although the Commission solicits the financial interest of alumni, benefactors, business corporations, foundations, universities and state and local governments, it clearly looks to the federal government for operational subsidies as well as grants for construction, scholarships and loan funds.

The Commission recommended increased financial support from public and private sources to support dental research. It urged establishment of a nongovernmental agency for the solicitation and distribution of grants from industry and philanthropy for the advancement of research in the cause and control of oral disease. The Commission called on the federal government to pay full overhead costs of projects which it supports. It also recommended faster communication of research findings to dental teachers and practitioners.

The proposed completed program is based upon a projected population of the United States of over 222 million in 1972.

For Canadian dentists, the importance of this American Survey and of its recommendations lies in the parallel factors bearing on dental practice in both nations. There is no doubt that the findings and the implementation of recommendations in the one country will have repercussions in the other. The ultimate value of such a comprehensive study depends on how thoroughly the dental

profession as well as the general public "digest its findings and implement its recommendations." Therefore this inexpensive little text should be mandatory reading for every Canadian dentist. F. H. Compton.

Outline of Pathology

Prepared by: John H. Manhold, Jr., and Theodore E. Bolden.

Published by: W. B. Saunders Company, Philadelphia, 1960.

Pages: 340

Price \$4.75

The pleasing and compact format of this attractive book makes examination of its contents irresistible. The reader is well rewarded for his curiosity and will immediately wish to have this little volume available for easy reference. It is satisfying also to have a title which is both brief and specific. Here one finds no tedious dissertations and quotations, no ponderous details. Descriptions are brief and lucid, repetitions few.

This extensive outline of pathology being almost laconic in its brevity, satisfies a long-standing want for a complete handy reference. The aim of the authors, as expressed in the preface, has been well attained. It will indeed "aid the neophyte to study and the graduate to recall."

This book is divided into two sections: Part 1, "General Pathology," gives a brief discussion of the nature of disease, followed by a classification of casual factors which differs from the customary. The authors then proceed to descriptions of types and classifications of various pathological conditions. Part 2, "Systematic Pathology," presents brief descriptions of the various pathological processes occurring in the various systems of the body. This systematic classification, instead of the usual tissue classification will have a special appeal to dentists.

We are grateful to have a book on general pathology written by dental teachers who appreciate the requirements of the dentist. It is of inestimable value to every student of dentistry from the undergraduate to the senior practitioner.

A. Borden Haverstock.

THE LIBRARY

Additions

AMERICAN DENTAL ASSOCIATION. COUNCIL ON DENTAL THERAPEUTICS. Accepted dental remedies; drugs used in dental practice including a list of brands accepted by the Council on Dental Therapeutics of the American Dental Association. 26th ed. Chicago, 1961. 230p. \$3.

ANNALES UNIVERSITATIS MARIAE CURIE-SKŁODOWSKA. Secto D. Medicina. Vol. XIV—1959. Lublin, Polonia, 1960. 354p. illus.

BACON, E. S. The New York Academy of Dentistry; its first thirty-five years. New York Academy of Dentistry, 1960. 257p. illus.

CAWSON, R. A.-CUTFORTH, R. H. Medicine for dental students. London, Churchill, 1960. 212 p. illus. \$4.50.

COMMISSION ON THE SURVEY OF DENTISTRY IN THE UNITED STATES. Dentistry in the United States; status, needs, and recommendations. Summary report. B. S. Hollinshead, Director. Washington, American Council on Education, 1960. 66p. \$1.

GOULDING, R. Dental pharmacology and therapeutics. London, Heinemann, 1960. 199p. illus. \$2.70.

GUSTAFSON, A.-G. A morphologic investigation of certain variations in the structure and mineralization of human dental enamel. Malmö, 1959. (Odontologisk Tidskrift, Vol. 67:361-472, 1959.) Sweden, Göteborg.

SVENSK TANDLAKARE TIDSKRIFT. 100 Arsjubileet. Svensk Tandlakartidskrift, Nov. 1960, Vol. 53:733-955. Stockholm.

IN MEMORIAM

Foster Melville Graham—Dr. Foster Melville Graham of Fenelon Falls, Ontario, died on December 14, 1960.

Dr. Graham graduated from the Royal College of Dental Surgeons of Ontario in 1921.

Michael Vincent Cosentino—Dr. Michael Vincent Cosentino of Toronto, Ontario, died in December, 1960. He was 56.

Dr. Cosentino was born in Toronto in 1904. He graduated from the Faculty of Dentistry, University of Toronto in 1930.

Fred Lyell Williamson—Dr. Fred Lyell Williamson of Hamilton, Ontario, died on December 13, 1960. He was 78.

Born at Jarvis, Ontario, Dr. Williamson received his early education at Hagersville, Ontario. He graduated from the Royal College of Dental Surgeons of Ontario in 1903 and set up practice in Cayuga. He remained in Cayuga until 1907 when he moved to Hamilton.

Dr. Williamson became an honorary member of the Royal College of Dental Surgeons of Ontario in 1953. In 1912 he was treasurer of the Canadian Dental Association, from 1914-15 he was president of the Hamilton Dental Association, and in 1940 he was on the Board of the Ontario Dental Association. Dr. Williamson was also a Fellow of the American College of Dentists.

A member of the Hamilton Golf and Country Club and the Hamilton Thistle Club, he was also president of the Hamilton Tiger Hockey Club, Senior O.H.A. Champions 1924.

Surviving are his wife, Jean; two daughters, Jane and Anne; two brothers, Albert and Murray, and one sister, Mrs. C. McCarter.

Ronald Henderson—Dr. Ronald Henderson of Eastend, Saskatchewan, died on November 8, 1960. He was 57.

Born in Ottawa, Ontario, Dr. Henderson completed his high school education in Moose Jaw and graduated in dentistry from McGill University, Montreal. After practising in Assiniboia for several years he moved to Eastend where he practised for 28 years. During the Second World War he served as a major in the Canadian Army Dental Corps, seeing service in England and the continent. He was a keen member of the Canadian Legion.

During his residence in Eastend he was extremely active in the affairs of the community. He was one of the prime movers in the building of the Eastend Memorial Hall, the skating rink and the curling rink. He was one of the first members of the Eastend Young Men's Board of Trade and a member of Azure Lodge of the Masonic Order.

He is survived by his wife, Beryl; one daughter, Mrs. R. Roth; a brother, Graham, and two sisters, Mrs. S. Brodie and Mrs. J. Troy.

Robert Lester Pallen—Dr. Robert Lester Pallen of Vancouver, B.C., died on December 30, 1960. He was 75.

Dr. Pallen was born in Dalhousie, New Brunswick, on June 3, 1885. He studied telegraphy with the Intercolonial Railway. At the age of 19 he was appointed telegraph operator and soon after left for British Columbia.

He studied dentistry at the North Pacific Dental College of the University of Oregon where he graduated in 1916. Thereupon he began to practice in Vancouver and shortly afterwards he was appointed as school dental officer by the Vancouver School Board. In 1950 he retired from this position after thirty-three years as Director of Dental Health Services in Vancouver schools.

Dr. Pallen was appointed as delegate from British Columbia to the Board of Governors of the Canadian Dental Association in 1932 and became president of the Association in 1936-8. For twenty-five years he was a member of the Council of the College of Dental Surgeons of British Columbia and held the presidency from 1928 to 1945. He was also Registrar-Secretary of the College from 1948 until his retirement in May, 1953, at which time he became an Honorary Member of the Canadian Dental Association.

In addition to his Council activities, Dr. Pallen acted as treasurer of the British Columbia Dental Association for many years.

Dr. Pallen was a Fellow of the American College of Dentists.

He is survived by one daughter, Mrs. John A. Bryson of Vancouver, B.C.

Llewellyn McKinley Gray—Dr. Llewellyn McKinley Gray of Moncton, New Brunswick died suddenly on November 20, 1960. He was 63.

Dr. Gray was born at Campbellton in 1897 and received his early education there. After returning from overseas where he served in the Signal Corps during World War I he graduated from the Royal College of Dental Surgeons of Ontario in 1924. He returned to Campbellton and practised there until 1941 when he joined the Canadian Dental Corps in which he served as a major until 1957 when he retired. Dr. Gray practised in many parts of the Maritimes, Alberta and Victoria, B.C., moving to Moncton from Dartmouth in 1957.

Surviving are his wife Claire; his mother; two brothers, Charles and Manning; three sisters, Mrs. H. C. Todd, Mrs. A. F. Bull and Miss Greta Gray, and several nieces and nephews.

Harold Lincoln Windrim—Dr. Harold Lincoln Windrim of London, Ontario, died on December, 1960. He was 60.

Dr. Windrim was born in London in 1900. In 1921 he graduated from the Royal College of Dental Surgeons of Ontario.

Dr. Windrim received the diploma in Dental Public Health from the University of Toronto in 1948 and had been in charge of school dental health services for the London board of education.

ANNOUNCEMENTS

Conventions of the Canadian Dental Association

1961	Saskatoon, Saskatchewan	June 7th-7th
1962	Vancouver, British Columbia	June 3rd-6th
1963	Toronto, Ontario	May 19th-22nd
1964	Edmonton, Alberta	June 28th-July 1st
1965	Quebec City, Quebec	May 30th-June 2nd
1967	Toronto, Ontario	May

(Centennial Celebration
of Dentistry in Canada)

FUTURE EVENTS

Date	Function	Location	Officer	Address
Feb. 23, 1961	Academy of Dentistry, Toronto, 2nd Stated Meeting	King Edward Sheraton Hotel, Toronto	Mrs. N. H. Montgomery,	230 St. George St., Toronto, Ont.
Mar. 23-26, 1961	Intl. Ass'n for Dental Research	Boston, Massachusetts	Dr. D. Y. Burrill,	311 E. Chicago Ave., Chicago 11, Illinois.
May 4-6, 1961	British Columbia Dental Association	Kelowna, B.C.	Dr. K. E. Geis,	413 Lawrence Ave., Kelowna, B.C.
May 20, 1961	Can. Society of Dentistry for Children, Ontario Chapter	King Edward Sheraton Hotel, Toronto	Dr. D. L. Rife,	3014 Bathurst St., Toronto, Ont.
May 21-24, 1961	Ontario Dental Association	Royal York Hotel, Toronto	Mrs. W. C. Durham,	230 St. George St., Toronto, Ont.
Jul. 2-5, 1961	Atlantic Provinces Dental Convention	Charlottetown, P.E.I.	Dr. L. I. Duffy,	202 Queen St., Charlottetown, P.E.I.
Jul. 9-15, 1961	Fédération Dentaire Internationale	Helsinki, Finland	Dr. G. H. Leatherman,	35 Devonshire Place, London W.1, England

POSTGRADUATE AND REFRESHER COURSES (CANADA)

TORONTO—The Department of Dental Oral Surgery and Anaesthesia, Faculty of Dentistry, University of Toronto offers a postgraduate course in **ORAL SURGERY**, April 24-28, 1961. The management of surgical problems met by the dental practitioner will form the basis for this review of the general principles of surgery. Instruction will be given in anaesthesia for dental operations. Problems of diagnosis, systemic factors relating to Oral Surgery, chemotherapy, and pre- and post-operative case management will be considered. Specific problems discussed will include jaw fractures, sinus involvement, cysts, root resection, abnormal fraena, malposed and impacted teeth, cellulitis and deep neck infections. The course will be directed by Dr. J. H. Johnson and associates. Tuition fee \$100.

The Department of Periodontics offers a postgraduate course in **PERIODONTICS**, May 8-12, 1961. Diagnosis of abnormalities of the supporting structures of the teeth will be reviewed as well as the principles of case management. Treatment procedures will be demonstrated using patients. Consideration will be given to the broader aspects of oral medicine and the relation of all these abnormalities to other dental treatment procedures. The course will be directed by Dr. C. H. M. Williams and associates. Tuition fee \$100.

Inquiries and requests for application forms should be directed to the Chairman, Division of Postgraduate Studies, Faculty of Dentistry, 124 Edward Street, Toronto 2, Ontario.

POSTGRADUATE AND REFRESHER COURSES (U.S.)

TUFTS—March 1, 8, 22, 29, April 5 and 12, 1961—Minor Oral Surgery.

TUFTS—May 3-5, 1961—Clinical Adjustment of the Occlusion.

Other information concerning dental meetings outside Canada is available at C.D.A. Headquarters upon request.

Deux incisives centrales jumelées ou bifides contenant des "dens in dente"

par JEAN FONTAINE, B.A., D.D.S. et GÉRARD de MONTIGNY, B.A., D.D.S., Université de Montréal.

Cette communication rapporte le cas d'une double anomalie dentaire chez le même patient: deux centrales supérieures très larges, avec sillon central, contenant dans leur chambre pulpaire des denticules appelés "dens in dente". (Fig. I)

DONNÉES DE L'EXAMEN

1) *Histoire de cas*

N.P., garçon, 14 ans; intelligence normale; développement physique quelque peu en dessous de la moyenne (poids, 110 lbs; hauteur, 5'2"); a souffert à 1½ an d'eczéma dans la figure, autour de l'oeil gauche, au moment de l'éruption de ses dents; a été hospitalisé à 2½ ans pour fièvre rhumatismale, endocardite, arthrite dans les jambes; cicatrice (brûlure) à l'oeil gauche, gênant vision; est somnanbule;

s'alimente normalement; a perdu du poids depuis quelques mois. A deux frères et deux soeurs en bonne santé avec denture normale; les grands-parents sont morts de diabète; aucune tare familiale, si ce n'est que le père est alcoolique depuis une dizaine d'années.

Les dents primaires ont été normales; l'éruption des centrales permanentes se fit normalement en regard de l'exfoliation des primaires au temps d'éruption, etc.

2) *Examen subjectif*

Se présente pour douleur à une centrale supérieure, à la voute palatine (région antérieure) et aux dents postérieures.

Se plaint de l'apparence de ses deux centrales supérieures.

3) *Examen objectif*

a) Occlusion normale

b) Dents primaires "in situ":

E	E
E	
6	E 1
	E
2	

c) Carie du 3e degré:

E	E
E	
6	E 1
	E
2	

d) Linguoversion:

e) Centrales supérieures:

1 | 1 largeur: 14 mm; hauteur: 25 mm.

1 | 1 largeur: 11 mm; hauteur: 20 mm.

Forme classique. Alignement normal.

Un sillon de 1½ mm. de profondeur, existe sur les deux dents, dans leur grand axe, à environ 1/3 de la distance du côté mésial au côté distal. Ces deux dents sont vivantes et la centrale droite a une carie profonde se rendant jusqu'à la pulpe.

f) Latérale supérieure droite: à cause du manque d'espace, situation linguale.

g) Toutes les autres dents: forme coronaire normale.

4) *Examen radiologique (fig. 6)*a) *centrale gauche*—(fig. 2)

La dent n'a qu'une seule racine et un seul canal radiculaire. Ceux-ci sont d'un volume beaucoup plus grand que la normale.

Présence de structure ressemblant à l'émail dans la chambre pulpaire; une couche définie, radiopaque, ayant la densité de l'émail s'étend à partir du milieu de la surface incisive jusqu'à la racine qui ne semble pas déformée.

b) *Centrale droite*—(fig. 3)

Présence d'une chambre pulpaire énorme, mais de deux racines non fusionnées, ayant chacune leur canal radiculaire plus large que la normale.

Carie dentaire profonde se rendant jusqu'à la pulpe.

5) *Examen de laboratoire**

Les coupes histologiques montrent une présence d'émail à l'intérieur de la dentine. (Fig. 4, 5)

A—Centrale gauche:

1) description macroscopique

Gémination vraie, fusion de la | 1 avec une dent surnuméraire

par les couronnes et les racines. Sur la face linguale, aux endroits correspondants aux forams caecum de chacune des dents, on observe de petits orifices conduisant en profondeur, altérés par la carie de l'émail pigmenté.

2) description microscopique

Les orifices continuent pour former deux invaginations de l'émail de 5mm. de profondeur et 2mm. de largeur avec de petites cavités ovales au centre. L'émail tapissant les cavités est d'épaisseur variant de celle de l'émail de la couronne jusqu'à zéro. La structure de la plus grande partie est régulière, prismatique. Il y a des endroits assez étendus avec des globules et des lamelles améloïdes. La limite entre l'émail et la dentine est assez irrégulière; il y a sur les parois de grandes invaginations et quelques petites invaginations microscopiques dans la dentine.

La dent adjacente à l'émail invaginé présente des espaces interglobulaires nombreux et quelques inclusions de matière organique. Plus loin, les canalicules sont rangés régulièrement, radialement à l'invagination. L'invagination produit une proéminence de dentine dans la chambre pulpaire avec un peu de dentine secondaire irrégulière.

Carie de l'émail, de la dentine. Espaces interglobulaires.

* Service de pathologie buccale, Faculté de Chirurgie Dentaire de l'Université de Montréal.

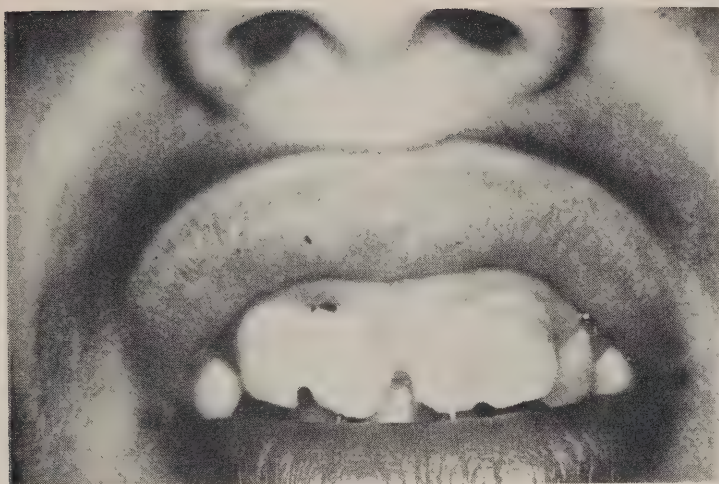


Figure 1
—dents jumelles, garçon de 14 ans.



Figure 2
—centrale gauche énorme: une seule racine,
un seul canal—apparence de concrescence
dans la chambre pulpaire.



Figure 3
—centrale droite énorme: deux racines et
deux canaux—une seule chambre pulpaire
—Présence de pansement dans la couronne.

B—Centrale droite:

1) description macroscopique:

Fusion, de 1 | 1 avec des dents

—
surnuméraires par les couronnes et les racines. Invagination profonde de l'émail dans 1 |, deux petites dans 1 |.

2) description microscopique:

1 | invagination de l'émail "dens in dente", un canal commence sur la face linguale de la couronne et descend jusqu'à la moitié de la dent où il s'élargit pour former une cavité ovale entre la chambre pulpaire et la surface linguale de la racine. La direction des canalicules dentinaires montre que l'invagination était, au début du développement, partiellement entourée par la pulpe, mais à présent la pulpe est comprimée et ne forme qu'une légère proéminence autour du fond de la formation pathologique.

L'invagination est tapissée par l'émail d'une épaisseur qui varie approchant celle de l'émail de la couronne. La structure est en général normale, sauf à quelques endroits constitués par le tissu améloïde. La dentine autour de l'invagination présente quelques irrégularités et inclusions organiques. Sur la paroi de la chambre pulpaire correspondant à l'invagination, on trouve quelques denticules adhérents entourés par une dentine bien régulière.

La couronne présente des hypoplasies et hypocalcifications de l'émail et des espaces interglobulaires microscopiques. Une carie large et profonde a altéré le commencement de l'invagination.

6) *Diagnostic*

Incisives centrales jumelées ou bifides contenant des "dens in dente". Le cas ressemble à celui rapporté par Paton

et Crighton⁽¹¹⁾. Dans la centrale supérieure gauche, les couronnes et les racines étaient fusionnées et le canal radiculaire était commun. Dans la centrale supérieure droite, quoique les couronnes étaient unies, il y avait deux racines, dont chacune avait son canal radiculaire. La latérale supérieure gauche était déplacée en direction de la voûte palatine.

7) *Traitement*

Extraction des deux centrales pour raisons d'esthétique.

8) *Observations*

L'anomalie "dens in dente" est plutôt commune⁽¹⁴⁾; deux dents géantes chez le même malade sont très rares.

Il y a donc dans le présent cas deux anomalies distinctes: gigantisme dentaire et "dens in dente".

I—GIGANTISME DENTAIRE

Cette curiosité histologique, selon divers auteurs qui ont fait des études sur le sujet, portent différentes appellations:

1) *mégadontisme*:—Ce phénomène associe des dents géantes à un développement exagéré du squelette; c'est une croissance excessive des dents; la cause est généralement l'hyperpituitarisme et l'hérédité; les structures mésenchymateuses sont ordinairement plus affectées que les structures épithéliales; il n'y a aucun changement histologique; il se rencontre aussi bien dans les dents postérieures que dans les antérieures;⁽²⁷⁾.

2) *dents jumelées*:—sont des anomalies qui viennent d'une tendance à la division d'un germe unique dentaire par une invagination qui donne comme résultat une formation incomplète de deux dents⁽²⁵⁾; Bush,⁽¹⁸⁾ en 1897, emploie le terme "dents jumelles";

3) *fusion*:—les dents fusionnées sont le résultat de 2 germes dentaires;

4) *concrecence*:—c'est un genre de fusion qui se produit après la calcification complète de la racine de la dent;



Figure 4.

I—Début de l'invagination de l'émail dans la couronne.

E—(gauche): Email.

E—(droit): Email coupé obliquement.

D—Dentine.

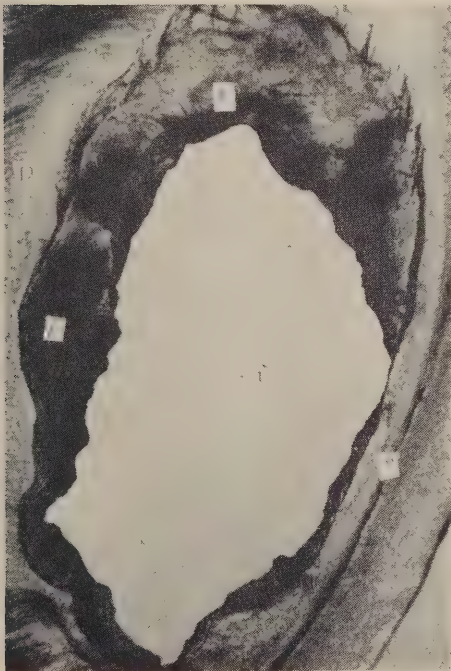


Figure 5.

Fond de l'invagination au tiers médian de la racine.

E—Email.

D—Dentine.

I—Cavité menant à l'intérieur tapissée par l'émail.

P—Proéminence linguale oblitérée de la pulpe.

La condescence serait une fausse gémiation⁽⁵⁹⁾;

5) *macrodontie*:—peut résulter d'un gigantisme d'origine pituitaire et d'hyperfonction surrénale⁽⁵⁹⁾;

6) *gémiation*:—union de deux dents voisines: les couronnes seules ou les racines seules, ou les couronnes et les racines peuvent être fusionnées. Il n'y a qu'un seul canal, quand les racines sont jointes. La constatation histologique remarquable est que la dentine de deux dents géménées est contiguë; cette gémiation se différencie de la condescence par le fait que dans la condescence, les dents sont unies par le cément seulement⁽⁵⁹⁾. Ce serait une irrégularité dans laquelle une couronne double est attachée à une seule racine⁽⁵⁶⁾.

1) *Revue de la littérature*

La littérature dentaire est assez pro-

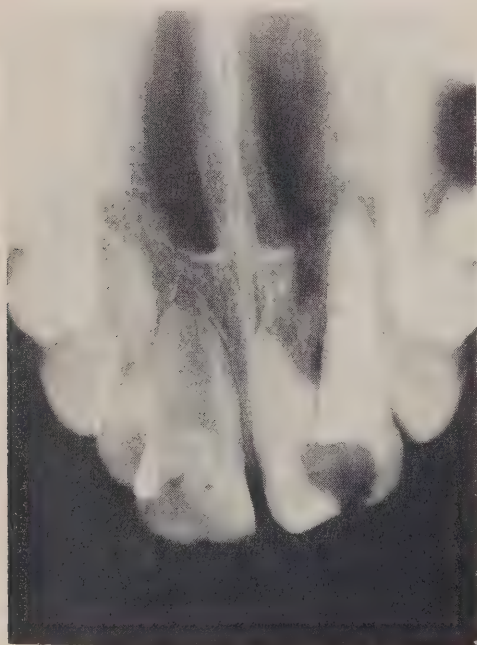


Figure 6

lifique sur la question des dents jumelées ou sur le gigantisme dentaire.

Plusieurs cas sont rapportés: Beretta, 1907, Sweeny, 1925, Leigh, 1926, Hammond, 1927, Kratwan, 1932⁽⁴⁷⁾.

Paton & Crighton⁽¹¹⁾ rapportent un cas de dents jumelées ressemblant beaucoup au cas actuel, mais sans "dens in dente". Une centrale droite présente deux couronnes et deux racines fusionnées, n'ayant qu'un seul canal. Une centrale gauche a deux couronnes fusionnées, deux racines distinctes et deux canaux.

Turkheim⁽³⁷⁾ dit que la fusion est plus fréquente dans la denture temporaire que dans la permanente, surtout dans les incisives inférieures.

Boyne⁽⁵⁶⁾ écrit que la gémiation est rare dans les dents permanentes; sur 2,000 patients, dont toutes les dents ont été radiographiées, il n'a trouvé qu'un seul cas.

Colyer⁽¹⁴⁾ en 1926, fut le premier à montrer une invagination épithéliale irrégulière dans l'organe de l'émail, qui semble vouloir se diviser en deux. Moody et Montgomery⁽¹⁴⁾, en 1934, mettent l'hérédité de l'avant pour expliquer ce phénomène.

Sprawson, en 1937, a démontré comment une division symétrique produira une dent bifide; il invoque l'hérédité. Gretn⁽¹⁴⁾, en 1936, croit qu'elles sont produites par une action physique (pression sur le germe dentaire), qui cause une nécrose du tissu et qui fournit à l'organe de l'émail et à la papille dentinaire une occasion de s'unifier. (Tableau comparatif).

2) *Localisation*

1) On les trouve surtout aux dents supérieures et dans le quadrant antérieur; on note une égale distribution entre les centrales, les latérales, les canines et les surnuméraires.

2) On les découvre généralement au moment d'un examen effectué entre dix et quinze ans.

3) Le sexe n'a aucune influence, ni l'hérédité, ni la classe sociale.

4) Ce sont des cas rares, quoique Shafer, Hume et Levy⁽²⁵⁾ disent que ce sont des cas communs.

3) *Diagnostic différentiel*

La fusion des dents est une des trois anomalies qui peuvent être invoquées dans le diagnostic différentiel.

a) *Dents jumelées* — ordinairement toutes les autres dents sont normales; elles naissent d'un seul bourgeon dentaire qui a tendance à se diviser pour former une jumelle; il peut y avoir une légère séparation entre les deux dents jumelées ou encore une séparation complète des deux couronnes.

b) *Fusion* — consiste dans l'unification de deux bourgeons de dents distinctes produisant une seule dent. Le nombre de dents présentes et l'histoire de cas aident au diagnostic. Les dents peuvent se fusionner de toutes les façons et produire des combinaisons étranges de couronnes, de chambres pulpaire, de canaux radiculaires et de racines.

c) *Concrescence* — consiste dans l'union de deux ou plusieurs dents par du ciment commun au pourtour des racines. Cet accollement est le résultat de la fusion totale ou partielle de deux follicules voisins réalisant une soudure totale (coronaire et radiculaire) ou partielle (coronaire ou radiculaire de deux ou trois organes dentaires particuliers). Il y a donc trois variétés de coalescence: 1) coronaire; 2) radiculaire; 3) coronaire - radiculaire. L'hérédité vraisemblablement n'y joue aucun rôle. Histologiquement, il y a continuité des tissus intéressés par la fusion, i.e. émail avec émail, dentine avec dentine. Ce phénomène semblerait indiquer que la coalescence s'est produite avant la calcification. Enfin les cavités pulpaire des organes fusionnés

peuvent communiquer ou, au contraire, être indépendantes les unes des autres. La fusion pourrait se produire soit au début du développement du follicule entre l'épithélium des organes pré-dentaires, soit plus tard, quand les couronnes ont achevé leur développement; la racine de l'une d'elles croît vers la racine de la dent voisine, résorbe celle-ci et poursuit son développement vers l'intérieur de celle-ci⁽⁴⁴⁾.

II. "DENS IN DENTE"

Ces anomalies de déposition des cellules dentaires portent plusieurs noms:

1) "*dens in dente*": une dent dans une autre ou inclusion dentaire; c'est une anomalie dans l'élaboration d'une dent: invagination de l'émail et de la dentine dans la chambre pulpaire et dans le canal radiculaire; ce phénomène est le résultat d'une invagination d'un seul organe d'émail. Selon Kronfeld⁽¹⁴⁾, le vrai "*dens in dente*" est caractérisé par la présence de tissu dentaire dans la chambre pulpaire d'une dent. L'arrangement des tissus dans la dent interne est renversé: l'émail repose à l'intérieur de la dentine ou le ciment à l'intérieur de la dentine;

2) "*warty tooth*", dent verruqueuse⁽³⁾;

3) *odontome composé dilaté*, nom suggéré par Rushton⁽⁴⁾ et Hunter⁽⁵⁾;

4) *dens invaginatus* — appellation préférée par Oehlers⁽⁶⁾;

5) "*roue dans une roue*" — nom proposé par Talbert⁽¹⁶⁾, en 1864.

1) *Revue de la littérature*

La littérature dentaire est abondante sur la question de "*dens in dente*".

Plusieurs cas sont rapportés. Tomes⁽⁴⁶⁾, en 1859, est le premier à décrire un "*dens in dente*". De nombreux auteurs mentionnent des cas: Egan⁽¹⁴⁾, en 1926, Kronfeld⁽¹⁴⁾, en 1934, Kitchin⁽⁵²⁾ en 1935, Adler⁽²⁸⁾, en 1939 Swanson⁽²²⁾, Silvenia⁽⁶¹⁾.

Manson-Hing⁽¹⁾ souligne que ces cas sont décelés d'ordinaire au cours d'un examen radiologique de routine.

Salter⁽³⁾, en 1855 a été le premier à parler de cette anomalie.

Rushton⁽⁴⁾, en 1937, est le premier auteur à décrire d'une façon complète cette anomalie dans l'élaboration d'une dent. Epstein⁽⁹⁾ rapporte un cas de "dens in dente" dans une latérale inférieure avec pathologie; il suggère une méthode de traitement consistant dans l'ablation de la partie de la dent malade, en conservant la partie saine de la dent.

MacGregor⁽¹⁰⁾ décrit seulement une invagination de l'émail et son diagnostic se base seulement sur l'aspect chimique et radiologique.

Kronfeld⁽¹⁴⁾ fournit une description complète des "dens in dente" au point de vue étiologique et histo-pathologique: "c'est une anomalie qui n'est pas très rare; elle a été observée en tout premier lieu en 1874 et seulement quelques cas ont été rapportés dans la littérature; son étiologie et sa vraie nature n'ont été établies que récemment; quelques chercheurs croient que cette anomalie provient de la fusion de deux germes ou de l'enveloppement d'une dent par une autre." Kronfeld par des études histologiques établit que le "dens in dente" représente une invagination de l'épithélium de l'émail qui apparaît sur une radiographie, comme si une dent était contenue dans une autre. La dent en cause aurait deux chambres, la chambre pulpaire actuelle avec son foramen apical normal et une autre dans la couronne près du bord incisif de la dent. Cette seconde cavité est tapissée d'émail et contient ordinairement des reliefs de l'organe de l'émail. L'apex de la seconde chambre pulpaire est généralement formé d'une façon imparfaite et il y a de nombreux petits canaux communiquant avec la chambre pulpaire vraie, comme résultat de l'invagination la structure de la forme du dedans est renversée, c.-à-d. l'émail repose au dedans de la dentine. L'au-

teur prétend que c'est un retard dans le développement d'une portion de l'organe d'émail, probablement près de la dépression linguale.

Baume⁽¹⁷⁾ croit que cette anomalie a pour origine deux dents.

Swanson⁽²²⁾ a été le premier à rapporter un "dens in dente" se produisant bilatéralement.

Gramm⁽²³⁾ opine que la structure histologique de tous les cas observés jusqu'ici indique qu'il n'y a pas toujours qu'une seule chambre pulpaire présente.

Moral⁽⁴⁶⁾ a été le premier à reconnaître la vraie nature de cette anomalie: une malformation d'une seule dent et non la fusion de deux dents.

De Jonge Cohen^(13,21) dit que "dans les prémolaires, les "dens in dente" demeurent situés dans la moitié inférieure de la racine, tandis que dans les incisives, ils se situent dans la couronne."

Townsend⁽³⁸⁾, en parlant des "dens in dente" écrit que toutes ces dents ont une tendance à avoir une fissure linguale.

Fishman et Friedman⁽⁴⁶⁾ font une revue de la littérature en exposant les théories sur l'étiologie, le site des lésions, l'incidence, etc.

Rabinowitch⁽⁴⁷⁾ croit être le premier à rapporter un cas de "dens in dente" dans une denture primaire; il cite Atkinson qui, en 1943, disait que 10% des "dens in dente" se trouvent dans les latérales permanentes.

Rabinowitch⁽⁴⁹⁾ écrit que, contrairement à ce qu'on croyait jusqu'à maintenant, ces anomalies ne sont pas rares: on ne les a pas rapportées ou on ne les a pas découvertes.

Goldman et Bloom⁽⁵⁹⁾ disent qu'ils sont rares.

Toto⁽⁵³⁾ écrit que la découverte d'un "dens in dente" bilatéral dans les latérales supérieures suggère un déséquilibre de croissance.

Swanson et McCarthy⁽⁵⁷⁾ sont les seuls à rapporter dans la littérature deux "dens in dente" bilatéraux. Ils croient que ces malformations sont causées par une prolifération des cellules de l'organe de l'émail dans la papille dentaire.

Amos⁽²⁶⁾ rapporte des statistiques portant sur les "dens in dente" et il a trouvé qu'on les trouve chez 6% des individus de race blanche; les noirs n'en ont pas (Tableau comparatif).

2) Localisation

Parmi les cas rapportés, la fréquence de localisation s'établit dans l'ordre suivant:

1) 2/2

Dans ces dents, on note souvent des fissures. A l'Université d'Indiana⁽²⁴⁾, sur 2452 cas, on trouve 31 cas dans les latérales supérieures, soit une proportion de 1.26%.

2) 1/1

3) Rarement au maxillaire inférieur.

4) Rare, dans la denture temporaire.

5) Rare sur le mésiodent.

Ces anomalies peuvent être, soit dans la couronne, soit dans la racine. Oehlers^(6,7) divise ces invaginations en trois groupes: 1) couche d'émail confiné dans la couronne; 2) couche d'émail ayant la forme d'un sac dans la racine; 3) couche d'émail plus invagination et pénétration dans la structure de la racine.

3) Etiologie

1) Tomes, en 1859, en place l'étiologie dans une invagination de l'épithélium de l'émail dans un sillon lingual.

2) Bush⁽¹⁸⁾ prétend que le "dens in dente" prend son origine de deux germes de dents différentes.

3) Moral⁽⁴⁶⁾, en 1918, dit que cette anomalie ne découle pas de la fusion de deux dents différentes.

4) Euler⁽⁴⁶⁾ prétend que ce phénomène est causé par des pressions durant le stage de formation de la dent.

5) D'autres opinent que cette anomalie provient du clivage de la couche épithéliale de Hertwig.

6) Hunter⁽⁵⁾ suggère que le "dens in dente" soit classifié comme un odontome dilaté.

Le facteur hérédité est invoqué par plusieurs auteurs^(41,42).

Fordyce⁽³⁴⁾ prône l'hérédité; il cite un cas où le père ayant des dents géminées a eu une fille qui n'a pas eu de latérales et un fils une fissure palatine. D'autres explications sont suggérées; par exemple, une pression externe localisée et augmentée⁽²⁵⁾; un retard dans le développement facial dans certaines régions où se trouvent les germes dentaires.

4) Diagnostic différentiel

On reconnaît, à la radiographie, un "dens in dente" par sa forme de poire qui s'invagine dans une dent. On peut les méprendre pour des nodules en évolution. La radiographie a une très grande valeur, car elle seule démontre ces anomalies et aide au diagnostic. Elle indique le genre de fusion et l'état des racines et des canaux.

Un "dens in dente" peut se méprendre pour un odontome qui est une tumeur odontogénique dans laquelle les cellules épithéliales et conjonctives (mésenchymateuses) se différencient également en favorisant la formation d'émail (par les améloblastes) et de dentine (par les odontoblastes). Cet émail et cette dentine sont formés d'une façon anormale à cause de l'absence de morphodifférentiation normale.

5) Pathogénie des "dens in dente"

C'est, dit-on, une prolifération des cellules épithéliales occasionnant un développement apical dans la papille dentinaire.

Ce sont des dentomes intra-dentaires qui sont assez rares. Ils sont caractérisés par la présence d'un denticule dans la chambre pulpaire élargie d'une incisive ou d'une canine; ils ont le plus souvent une forme globuleuse irrégulière.

Selon Berdier et Codwell⁽⁴⁵⁾, ils seraient des tumeurs nées d'une déviation localisée de l'activité odontogénique de l'épithélium adamantin. La dent qui possède dans son sein un "dens in dente" serait en général d'un volume supérieur à la normale; on y trouve aussi une fissure limitée à l'émail ou qui s'enfonce profondément dans la dentine.

Les tissus rencontrés dans le "dens in dente" ne sont pas différents de ceux qu'on trouve normalement dans la dent. La seule particularité réside dans leur disposition: ils sont inversés par rapport à la normale; la dentine est à l'extérieur, l'émail à l'intérieur.

La couche adamantoblastique, au lieu de s'évaginer vers l'extérieur, s'invagine vers la cavité pulpaire de la dent en évolution.⁽⁶⁰⁾

CONCLUSIONS

L'étude du cas présent et la consultation de la littérature traitant de dents jumelées et de "dens in dente" permettent de tirer les conclusions suivantes.

I. GIGANTISME DENTAIRE

Les incisives centrales fusionnées sont bien connues quoiqu'elles soient peu communes. L'extraction de ces dents est presque toujours indiquée pour des facteurs esthétiques.

Le volume et la forme de ces dents déterminent souvent une malocclusion;

leur extraction hâtive est susceptible de prévenir ces malocclusions et les traitements d'orthodontie qu'elles exigeraient.

Le facteur hérédité semble jouer un rôle important, malgré que plusieurs autorités sont sous l'impression que ces dents fusionnées ne sont en réalité qu'une variation des facteurs qui causent des odontomes ou des dents surnuméraires. Il n'y a aucune explication sûre pour déterminer l'étiologie de cette anomalie ectodermale localisée.

II. "DENS IN DENTE"

- 1) On trouve le plus souvent dans les latérales supérieures les "dens in dente".
- 2) Seul un examen radiologique peut déceler les "dens in dente".
- 3) L'émail s'étale sous la dentine ou le cément et non à l'extérieur de la dent⁽¹⁴⁾.
- 4) Le "dens in dente" est le résultat d'une invagination d'une partie de la dent dans une autre: ce n'est pas une formation jumelle, mais bien une malformation d'un seul germe dentaire⁽¹⁴⁾.
- 5) Ces anomalies dans le développement peuvent prendre la forme d'une couronne ou celle d'une racine.

RÉSUMÉ

Cette communication rapporte le cas rare de deux centrales supérieures géantes contenant toutes les deux des "dens in dente"; elle renferme aussi une revue élaborée de la littérature traitant de ces deux anomalies histologiques.

TABLEAU COMPARATIF

"Dens in dente" — Gémination — Fusion

auteurs	no de cas	no de dents	uni- laté- ral	bila- téral	sexe	âge	in- fec- tion	fu- sion	dens	gém.	absence	endroit	apparence
Tomes (1859)	1	1	✓						✓				
Baume (1874) (17)	1	1	✓						✓			<u>3</u>	latérale <u>2</u>
Salter (1875) (3)	1	1	✓						✓			<u>2</u>	
"Socrates" (1956) (51)	1	2		✓	F	18			✓			<u>6</u> <u>6</u>	
Talbert (1664) (16)	1	1	✓						✓			<u>7</u>	
Miller (1901) (19)	1	1	✓						✓			<u>3</u>	très large (8 lobules)
Zeckendorf (1910) (20)	1	1	✓						✓			<u>2</u>	
Moral (1918)	1	1	✓						✓			<u>3</u>	supernuméraire
De Jonge Cohen (13)	1	2	✓						✓			<u>4</u> <u>4</u>	
Kirk (14)	1	1	✓						✓			<u>3</u>	
Lejeune & Wustrow (14)	1	2		✓					✓			<u>3</u> <u>1</u>	
Kronfeld (14)	1	1	✓		F	15			✓			<u>2</u>	
Paton & Crighton (11)	1	2		✓	M	20						<u>1</u> <u>1</u>	
Morgan & Payton (2)	2			2✓	F	16			2✓			<u>2</u> × <u>2</u> <u>2</u>	
					F	16							
Kitchin (52)	1	1	✓		M	16			✓			<u>2</u>	
Manson-Hing (1)	2	4	✓	✓					✓			<u>4</u> <u>4</u> <u>4</u> <u>4</u>	<u>4</u> (double "dens in dente")
Epstein (9)	1	1	✓		M	9			✓			<u>2</u>	
MacGregor (10)	1	1	✓		M	19			✓			<u>2</u> <u>1</u>	
Swanson (22)	1	2		✓					✓			<u>2</u> <u>2</u>	
Searcy (15)	1	2		✓	F	14			✓			<u>2</u> <u>2</u>	
Shafer (24)	19		12✓	7✓					✓			<u>5</u> <u>2</u> + <u>7</u> <u>2</u> — <u>7</u> <u>2</u> —	sur 2452 pts 1.26%
Amos (26)	22		✓	✓					✓			<u>17</u> <u>2</u> + <u>12</u> <u>2</u>	sur 1,000 pts 51%

auteurs	no de cas	no de dents	uni laté- ral	bila- téral	sexe	âge	in- fection	fu- sion	dens	gém.	absence	endroit	apparence
Adler (28) Melville (29)	1 1	1 1	✓ ✓	✓ ✓	F F	9	✓	✓ ✓	✓ ✓		$\overline{1} \mid \overline{3}$	$\overline{1} \mid 2 \mid$	absence $\overline{1}$ absence $\overline{3}$
Franks (30)	1		✓		M	10½		✓		✓		$1 \mid 1 + 2 \text{ surn.}$	$1 \mid - 2 \text{ ch.} + 2 \text{ roc.}$ $4 - 1 \text{ ch.} - 1 \text{ roc.}$
Long (31)	1	3	✓		M	7		✓		✓	$\overline{1}$	$\overline{a} + \overline{ab} \text{ surn.}$	3 ch. pul. + temporaires.
Heslop (32) Heslop (36)	1 1	2 2	✓ ✓		F	21 17		✓	✓			$8 \mid + 8 \mid$ surnuméraire sur dents surn. entre $1 \mid 1$	
Munro (33)	9	10	6✓	3✓	6F 3M	10-9- 14-13- 16-12			9✓			$2 \mid, 2 \mid, 2 \mid$ $2 \mid + \text{ surn. } 2 \mid 2, 2 \mid 2, \overline{2}.$	sur 10,000 pts
Fordyce (34)	1	4		✓	M	44		✓				$21 \mid 12$	12 fusion complète 21 fusion incomplète 1 - 1ch. - 1 roc. 1 2 ou + 2 roc.
Cookson + Woods (35)	1	2		✓				✓	✓			$1 \mid 2$	canc. + pit. 2 - 1ch. + 1 roc. 1 2ch. + 2 roc.
Turkheim (37)	2	3	2✓		M M	3½ 4		✓ ✓				$A \mid - \text{fusion avec surn.}$ $\overline{A} - \text{fusion avec } \longrightarrow$	$B \mid 2 \text{ ch.} + 1 \text{ roc.}$
Townend (38) Fishman + Friedman (46)	2 2	3 2	1✓ ✓	1✓	2F	14- 10		✓	✓			$2 \mid, 2 \mid 2$ $\overline{1} + \text{mesiodent.}$	
Sloan + Symmons (39)	1	2		✓	M	38	✓	✓		✓		$1 \mid 1 \mid - 14 \text{ mm } 1 \mid - 12 \text{ mm}$ $1 \mid 2 \text{ ch.} - 2 \text{ roc.}$ $\overline{1} - 1 \text{ ch.} - 1 \text{ roc.}$	$3 \mid 3$
Allwright (40)	1	2		✓	M	30		✓		✓		$1 \mid 1 = 1 \mid 7/6 \text{ po.} \times 5/8$ $\overline{1} 5/16 - \frac{1}{2}$	2ch. + 2 roc. 1ch. + roc.

Tratman (41) Tratman (42)	2 5	4 8	2✓ 5✓	M M	18 16	5✓	2✓	$\overline{32}, \overline{32}$ [bc, ba], $\overline{b}$, $\overline{c}$, $\overline{cb}$	hérédité? hérédité? temps
Tratman (42) Hilton (50)	1 1	4 1		✓ M M	13 14		✓	$\overline{32} \overline{23}$ $\overline{7}$	hérédité?
Shannon (58) Swanson + McCarthy (57)	1 1	1 2	✓	M F	9 8	✓		$\overline{2} - \text{non}$ $\overline{2} \overline{2}$	
Boyne (56)	2	3	✓	M M	21 36		✓ ✓	$\overline{11}$ $\overline{1}$	$\overline{1} - 2 + 2\text{ch.}$ $\overline{1} - 1 \mid \text{roc.} + 1 \mid \text{ch.}$ fissure $\overline{1} \mid \text{roc.} + \text{cu.}$
Cavanagh (54) Oehlers (7)	1 1	1 2	✓	M F	12 27	✓ ✓		$\overline{2}$ $\overline{2} \overline{2}$	
Toto (53) Rabinowitch (47)	1 1	2 1	✓	F M	15 3½	✓ ✓		$\overline{2} \overline{2}$ $\overline{C}$	fissure ling. sillon profond
Shafer + Hine (48)	9	10	9✓	F(1)	18		10✓	$\overline{2} - \overline{2} - \overline{2} - \overline{2}$ $\overline{2} \mid \overline{2} \mid \overline{2} \mid \overline{3} \mid \overline{2} \overline{2}$	fissure ling.
Rabinowitch (49)	4	5	4	M F F M	13 15 12 12	✓ ✓ ✓ ✓	4✓	$\overline{3} \mid \overline{2} \overline{2}$ $\overline{2} \overline{2}$	fissure ling. carie
Kitchin (50)	2	2	2✓	F F	26 19		2✓	$\overline{2} \mid \overline{2}$	
Oehlers (6)	19	19	18	6F 13M	19 38-13 40-18 31-24 11-42 8-25 32-19	6✓	19✓	$\overline{2}, \overline{2}, \overline{2} \overline{2}, \overline{6}, \overline{2}$ $\overline{1}, \overline{2} \mid \overline{2} \mid \overline{2}, \overline{8} \overline{8} \overline{8}, \overline{8} \mid \overline{8}$ $\overline{7}, \overline{6}, \overline{8}, \overline{8}, \overline{8}$	
Boyne (55)	3	4	2✓	M M M	21 19 20	✓ ✓ ✓	✓ ✓ ✓	$\overline{2}$ $\overline{2}$ $\overline{2} \overline{2}$	fissure linguale

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SUMMARY

This is a case report of a double dental anomaly in the mouth of a 14-year old patient: two geminated central incisors with "dens in dente" in both teeth.—An elaborate review of the literature on gemination and "dens in dente", completes this study.

Nouvelles de la faculté de chirurgie dentaire de l'Université de Montréal

Professeur émérite

Le Conseil des Gouverneurs de l'Université de Montréal, à son assemblée du 7 novembre 1960, a nommé le docteur Adolphe L'Archevêque professeur émérite à la faculté de chirurgie dentaire.

Le docteur L'Archevêque a pris sa retraite en mai dernier, après avoir été titulaire du service de radiologie durant quelques quinze ans. Il avait été aussi durant quelques années chef du service de diagnostic.

Professeurs titulaires

Les professeurs suivants ont été nommés titulaires et agrégés par le Conseil des Gouverneurs de l'Université de Montréal:

Zdenek Mezl

- Doctorat en médecine à l'Université de Prague, 1932 (Tchécoslovaquie).
- Enseignement à la clinique de stomatologie à l'Université de Prague—1942-1949 à titre d'assistant-professeur et "Private Doctor" agrégé.
- Enseignement à l'Université de Groningen (Hollande) de pathologie dentaire à titre de professeur agrégé de 1949 à 1952.
- Doctorat en chirurgie dentaire à la faculté de chirurgie dentaire de l'Université d'Alberta, 1957.
- Enseignement de pathologie dentaire, à titre de professeur agrégé, à la faculté de chirurgie dentaire de l'Université de Montréal, 1957.
- A publié deux volumes sur la pathologie buccale et de nombreuses communications en plusieurs langues.

Camille Patenaude

- Doctorat en chirurgie dentaire à l'Université de Montréal, en 1946.
- Clinicien en prothèse dentaire à l'Université de Montréal.
- Professeur agrégé en prothèse, 1950.
- Responsable de l'enseignement théorique et pratique de la prothèse complète en 1^{ère} et 2^{ème} année.
- Responsable de l'enseignement théorique et pratique de matériaux dentaires en 1^{ère} et 2^{ème} année.
- Participe à l'enseignement clinique de la prothèse complète en 3^{ème} et 4^{ème} année.
- En plus d'être membre des sociétés dentaires locales, le docteur Patenaude est membre de l'International Association of Dental Research.

Jean Fontaine

- Doctorat en chirurgie dentaire de l'Université de Montréal, 1945.
- Armée canadienne, 1945-46.
- Clinicien bénévole, 1946-1950.
- Stage à l'Université Columbia 1950-1951.
- Certificat of Training in Oral Diagnosis Roentgenology, 1951.
- Assistant-professeur dans le service de diagnostic et de radiologie, 1951.
- Professeur agrégé en 1951.

Le docteur Fontaine a publié des communications dans des revues scientifiques; a pris part à des symposiums de diagnostic aux Etats-Unis et présenté des travaux à des congrès et des réunions de sociétés scientifiques.

Julien Bussièrès

- Doctorat en chirurgie dentaire, Université de Montréal, 1947.
- Cours post-gradués en histologie, 1947-1948.
- Chargés de cours d'anatomie et d'histologie dentaires, 1947 à 1950.
- Assistant-professeur de 1950 à 1952.
- Aggrégation en 1952.

Le docteur Bussièrès enseigne l'histologie à la faculté de médecine et l'anatomie dentaire aux étudiants de première année de la faculté dentaire de l'Université de Montréal.

Antoine Raymond

- Doctorat en chirurgie dentaire en 1946.
- Un an d'internat à l'Hôpital Bellevue, à New York, 1946.
- Cours post-gradués en chirurgie buccale, 1948, 1949, 1950.
- Clinicien demi-temps au service de chirurgie buccale de 1948 à 1953.
- Assistant-professeur d'anatomie normale à la faculté de médecine de 1950 à 1953.
- Professeur agrégé d'anesthésie locale, 1953.
- A donné au-delà de 35 conférences sur l'anesthésie locale et la chirurgie buccale à des congrès et devant des sociétés de dentistes de la province de Québec. A pris part à un symposium sur "A clinical appraisal of Hexetidine in Periodontitis and Minor Oral Surgery", à l'Université Northwestern de Chicago.

Professeur agrégé:

Georges Perreault

- Doctorat en chirurgie dentaire à l'Université de Montréal, 1951.

- Internat à la clinique Guggenheim, de New York, 1951.
- Cours post-gradués à l'Université Illinois, où il obtient une maîtrise en sciences, 1952-1954.
- Gagnant du Concours de la Chicago Dental Society pour la meilleure thèse soumise en 1954.
- Assistant-professeur au service de pédo-dontologie de la faculté de chirurgie dentaire de l'Université de Montréal, 1954.
- Consultant au Montreal Children's Hospital
- A publié des communications dans: *Journal of Dental Research*, 1954, 1955, *Journal of the American Dental Association*, 1956, *Journal of Dentistry for Children*, 1954, *Journal de l'Association Dentaire Canadienne*, 1956.
- Boursier du Conseil national des recherches

Maîtrises en orthodontie

Les dentistes suivants ont reçu en janvier 1961 leur maîtrise en orthodontie dans le service post-gradué d'orthodontie de la faculté de chirurgie dentaire de l'Université de Montréal:

Eldon, Ellsworth Carman, Marietta, Geor-

gia, E.-U.; Abdoney, Mike O. Logan, West Virginia, E.-U. Crompton, Michael John, Fredericton, N.-B.; Croxton, Hugh Bertram, Greenville, S. Carolina, E.-U.; Dempsey, Lee Durant, Cartersville, Georgia, E.-U.; McCauley, Kelly Edward, Fort Bragg, North Carolina, E.-U.; Harris, Rafael Rincon, Maracaibo, Venezuela; Pittaway, John Alan, Reno, Nevada, E.-U.; Vachon, Albert, Ottawa, Ontario; Zimbalatti, Joseph Gerald, Détroit, Michigan, E.-U.

Communication à un congrès des E.-U.

Le docteur Jean Nadeau, chef du service de prothèse complète de la faculté de chirurgie dentaire de l'Université de Montréal, a présenté à Los Angeles, le 21 octobre 1960, devant les membres de l'American Academy of Maxillo-Facial Prosthesis une communication intitulée:

"Réhabilitation de fissure palatine à l'aide de ressorts Pendel's et de boutons de rétention dans la muqueuse"

Il a exposé des diapositives et des clichés à l'exposition scientifique du Congrès de l'Association dentaire américaine, tenu à Los Angeles, Californie, en octobre.

Il a de plus été élu au conseil des directeurs de l'American Academy of Maxillo-Facial Prosthesis.

Nouvelles du Corps Dentaire Royal Canadien

Le capitaine Dombowsky revient d'outre-mer

Le capitaine L. Dombowsky, de Claybank (Saskatchewan) est revenu récemment au Canada après un séjour de deux ans auprès de la 4e Compagnie dentaire de campagne, en Allemagne. Il a été affecté à la 13e Compagnie du R.C.D.C. à Trenton (Ont.).

Affectations au Canada

Les nominations suivantes ont été faites récemment:

Le major P. H. Guévremont, en service à la Station de l'ARC, à Saint-Hubert (Qué.) sera affecté au "Bonaventure", à Halifax (N.É.) à compter du 5 janvier 1960.

Le capitaine R. Lanthier, qui était à Griesbach Barracks, Edmonton (Alberta) est attaché à la Garnison de Calgary, à Calgary (Alberta), depuis le 9 novembre 1959.

Le major A. R. Ramsay, qui servait à bord du "Bonaventure", à Halifax (N.-É.), a été affecté à la Station de l'ARC, à Saint-Hubert (Qué.), à compter du 19 décembre 1959.

Le capitaine D. A. Warrick, qui était à la Station de l'ARC, à Clinton (Ont.), a été nommé à la Station de l'ARC, à Camp Borden (Ont.), à compter du 2 novembre 1959.

Le major J. G. Andrews suit un cours

Le major J. G. Andrews, de la Station de l'ARC à Trenton (Ont.), a suivi un cours de deux semaines sur la confection des dentiers complets, à l'Université de Michigan. Ce cours a eu lieu du 4 au 15 janvier.

* * *

Le capitaine J. A. English de la U. S. Navy rend visite au R.C.D.C.

Le capitaine James A. English, du U. S. Navy Dental Corps, a assisté au onzième colloque du Conseil de recherches pour la défense qui s'est tenu à Ottawa, du 9 au 11 décembre. Pendant son séjour au Canada, il a visité la Direction des Services dentaires et les installations du RCDC, à Ottawa, le 8 décembre, ainsi que l'École du R.C.D.C. à Camp Borden, le 15 décembre.

* * *

Affectation

Le capitaine R. D. Bunt a été transféré de Montréal à la 14e Compagnie dentaire du R.C.D.C., à Winnipeg.

Des officiers du R.C.D.C. suivent des cours

Les officiers dentistes ci-après suivent actuellement ou ont suivi des cours. Ce sont:

Les majors A. G. Andrews, de la Station de l'A.R.C., à Rockcliffe, et J. V. P. Chatwin,

The Canadian Dental Association

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JOURNAL

Dentist-Dental Technician Relations

WILLIAM D. MARSTON, C.D.T., Montreal, Quebec

Recent developments culminating in the approbation of denturists (individuals without formal academic training who render prosthodontic service directly to the public) in certain parts of Canada, Australia and Switzerland are cause for profound concern. Reflecting a form of public demand for dental care, this movement is also evidence of a deterioration in the relationship between the dentist and the dental technician. It is painful for the ethical dental technician to observe those who have systematically disregarded legal provisions governing the practice of dentistry now gain recognition

and preferred status in respect to income and prestige. Moreover, the rendering of clinical services by persons without acceptable academic training exposes the public to considerable hazard and is therefore contrary to the public interest. Examination, exposure and correction of the underlying causes are consequently necessary to the proper solution of this problem. As an ethical technician, the proprietor of a dental laboratory and son of a practising dentist, the author considers that he is in a position to make a useful contribution in this regard.

Basically, the denturist survives and

flourishes because his charges are less than the average dentist's fee. In areas where he pursues his calling clandestinely, he may enjoy these added advantages as compared to the ethical dental technician:

- Little or no overhead expense,
- No staff to carry during periods when his services are not in demand,
- No income tax, and
- Cash payment for his services.

The root of the problem seems centered in a combination of public reaction to the cost of prosthodontic treatment, inadequate remuneration of ethical dental technicians and unrealistic professional fees.

ATTITUDE OF THE PUBLIC

Growing public sensitivity to the cost of prosthodontic appliances coupled with unsatisfied demand for service has produced a favourable climate for those who are prepared to deliver a service at reduced cost. The author has personal knowledge of an individual who, having been repeatedly fined, and having recently been deprived of the custody of his equipment, intimated that he could recover his losses by the simple expedient of handling sixteen cases a week at \$30 each. He purchased new equipment on the following day. Obviously, the services of this type of individual are in demand.

REMUNERATION OF THE TECHNICIAN

The Association of Dental Technicians of the Province of Quebec requires Junior Matriculation as the minimum entrance requirement to its prescribed course of study. Student technicians then serve for five years as apprentices in a certified laboratory, and simultaneously attend evening classes at the association's school. Each year a student is required to pay for and pass association examinations and upon graduation he receives approbation as a Certified Dental Technician. His average starting salary is about twenty-five dollars a week. As recently as 1957 a survey of dental laboratories in Montreal revealed that an average employee was

only earning fifty dollars a week in spite of the fact that most of the dental technicians were fully certified. In one instance, a student technician was required to work gratis for his first year, and for fifteen dollars a week during his second year. The high cost of training was claimed as justification for these conditions.

TABLE 1. Average and Maximum Weekly Wages for Dental Technicians in the United States, October 1960*

	Average Wage	Maximum Wage
Full Denture Department		
Set-up man	\$116.33	\$165.00
Finisher	92.21	134.00
Partial Denture Department		
Survey and Wax-up man	115.83	190.00
Finisher	91.26	125.00
Fixed Bridge Technician	122.61	200.00
Ceramist	140.25	165.00

*Source: Dental Laboratory Review, 35:18, October, 1960

A recent survey of dental laboratory wages in the United States, as shown in Table 1, is illuminating. The present disparity between remuneration in the dental technology craft and other skilled trades presents the strongest temptation for resorting to illegal practice in order to supplement the meagre income. The ethical dental technician justifiably considers himself entitled to the same consideration in respect to remuneration as members of other skilled trades. In Montreal, electricians who receive \$2.45 an hour are now seeking an additional twenty-five cents an hour to yield a weekly wage of one hundred and eight dollars. Obviously dental technicians are also underpaid by local Montreal skilled trade standards.

Attempts to redress the situation have met with an indifferent or negative response. Some laboratory proprietors have attempted to increase their charges only to lose valuable accounts who send their prosthetic case-work elsewhere. Smaller establishments have tried to compensate inadequate revenue by extending their work period to sixteen and eighteen hours a day.

Substantial operating costs leave a very narrow margin of profit for many ethical

laboratory proprietors. Pressure from dentists who seek priority attention for "rush jobs" creates fluctuation in the work load which can only be met through costly overtime work scheduling, a procedure that frequently results in operating at a loss. Efficient laboratory operation at minimum cost requires a relatively even distribution of the work load. However, distribution in 1957 of a minimum price list and time schedule to the profession in the province of Quebec with the object of enlisting support in levelling this work load met with a negative response from a large number of dentists.

The author has knowledge of establishments which actually operate at a loss to retain their accounts. They recover the deficit from other sources of income. He knows of instances where, professional accounts being overdue, the laboratory proprietor must either seek an interest-bearing loan or an alternative source of income to tide him over a period of recession, maintain his establishment and discharge his obligations to his employees.

PROFESSIONAL FEES

Reference has been made to the public's attitude in respect to fees. A factor contributing to the cost of prosthodontic service is the practice followed by some dentists of multiplying the laboratory charge prior to arriving at the ultimate fee to the patient. The resulting cost is out of proportion to corresponding fees for other dental services. Such practices elevate the cost of service to the public, expose the entire profession to criticism and create a market for the services of the denturist.

A more realistic approach might be based on the computation of an hourly value derived from the cost of operating a dental practice (less laboratory charges) and a salary for the dentist. To this hourly value is added the actual laboratory charge. For example, a patient is to be provided with a partial denture in a dental practice where the hourly value

is computed at \$20.00 an hour. Assuming that the relevant chairside procedures require one and a half hours of the dentist's time and that the laboratory charges for fabricating the appliance amount to \$30.00, the patient's fee would amount to \$60.00. The foregoing example, though based on certain arbitrary values, nevertheless serves to illustrate the principles involved in a fair determination of fees. Observation of these principles would permit fair compensation for the dental technician as well as the dentist, would assure the patient of competent professional care, and would effectively tend to offset the competitive advantages enjoyed by denturists.

RECOMMENDATIONS

Dental technicians, recognizing the need for quality control in the services which they render to the dental profession, consider an improvement in their working conditions a foremost necessity. The craft cannot compete with other skilled trades in the recruitment of high-calibre students as long as working conditions remain relatively unattractive. A far more realistic approach to the remuneration of the dental technician is the only adequate solution in the final analysis.

A more considerate attitude on the part of certain dentists would also go a long way in improving relations between the craft and the profession. Naturally, it is the dentist's prerogative to provide adequate impressions, bite registrations and other written directions to the technician. A tolerant attitude in the matter of work scheduling, so as to avoid the creation of alternating periods of slack and peak demands, would be deeply appreciated by the dental technician. Perhaps these attitudes and qualities could be developed in our dental schools in the course of the dentist's undergraduate training.

Finally, there is much to be gained from close association between our respective groups. Dental associations might assist the technicians' organizations in bringing

about a greater exchange of ideas, improved communication and a willingness to discuss our common problems.

SUMMARY

The major problems affecting the relationship between the dentist and the dental technician are reviewed. They reside in

1. Public attitude toward the cost of prosthodontic treatment
2. Inadequate remuneration of the dental technician, and
3. Fee practices.

Recommendations are advanced for the resolution of these problems. It is strongly urged that authorized representatives from the profession and the craft give study to the matter and initiate such changes as may be conducive to the public interest as well as the best interests of both groups.

RÉSUMÉ

L'apparition du denturiste qui, sans la

formation scientifique nécessaire, prodigue directement au public des services de prothèse met en évidence d'une part une certaine exigence de la population pour des traitements dentaires et d'autres part un malaise dans les relations que les dentistes entretiennent avec les techniciens. Le denturiste a beau jeu car ses honoraires sont moindres que ceux du dentiste; il jouit, de plus, d'avantages incontestables sur le technicien dentaire qui se conforme aux lois. Le problème se situe dans (1) la répugnance du public à payer des honoraires élevés pour la prothèse; (2) la modicité des revenus des techniciens; (3) le statut inférieur du technicien dentaire en rapport avec celui d'autres métiers semblables; (4) l'exigence inconsidérée de certains dentistes pour leurs honoraires pour la prothèse. L'auteur suggère que des représentants autorisés de la profession et des techniciens ayant en vue l'intérêt du public étudient ensemble la question pour trouver des solutions acceptables pour les deux groupes.

1429 Bishop Street

Annual Session of
THE BOARD OF GOVERNORS
of
THE CANADIAN DENTAL ASSOCIATION
May 31 - June 3, 1961
Bessborough Hotel, Saskatoon, Saskatchewan

An Improved Tracing Technique for Radiographic Craniometry

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Toronto, Ontario

Information contained in cephalometric radiographs is utilized in the treatment planning and the assessment of the results of treatment in orthodontic practice; it is also used for accumulating craniometric data for research purposes. In spite of definite drawbacks associated with the method, for many years the conventional procedure has been to make tracings of radiographs either on tracing paper or transparent acetate paper.

The time involved in the production of tracings and the difficulty in changing or adding new landmarks to them is a handicap in research. The two-dimensional geometric picture of the tracing gives very limited information on the third dimension of the skull. This is a severe handicap in dental practice, particularly in orthodontics.

In an attempt to overcome these and other shortcomings in the tracing technique, the following procedures have been adopted.

The basic principle of this method is the production of a print of the radiograph by an electronic duplicating apparatus.¹ This process requires a special apparatus but has the following advantages:

- The contrast and density of the original can be varied when an improvement is considered desirable.
- There can be visualization of details which can only be seen in conventional procedures by special methods of viewing and processing.
- The exposure factor is automatically controlled.

The exposing medium is a light source derived from a cathode ray tube. Uniformity of exposure is achieved by scanning to a definite pattern. The source of exposure is referred to as the scanning beam and the intensity of the scanning spot is known as the dodging factor.

The requirements of exposure and contrast are decided upon beforehand and the necessary settings are made. There is a feed-back device which makes adjustments to the scanning beam and the dodging factor in order to produce the desired results.

In practice there are two variants of this procedure, described as the Two-Stage Method and the One-Stage Method.

THE TWO-STAGE METHOD

Using the type of apparatus described above, the radiograph is reproduced on a commercial fine grain film (Kodak, Du Pont or Ilford). This gives a reverse

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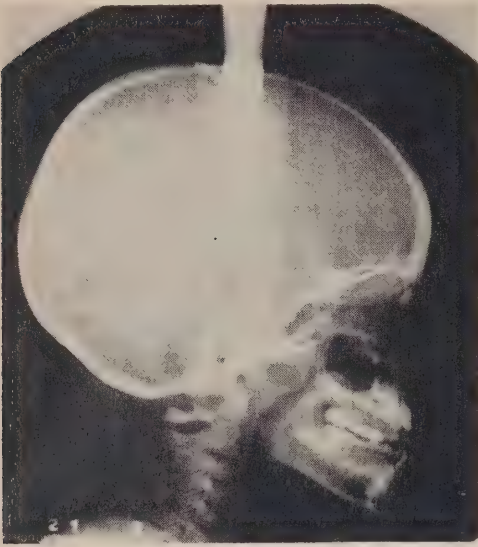


FIGURE 1
Original Radiograph

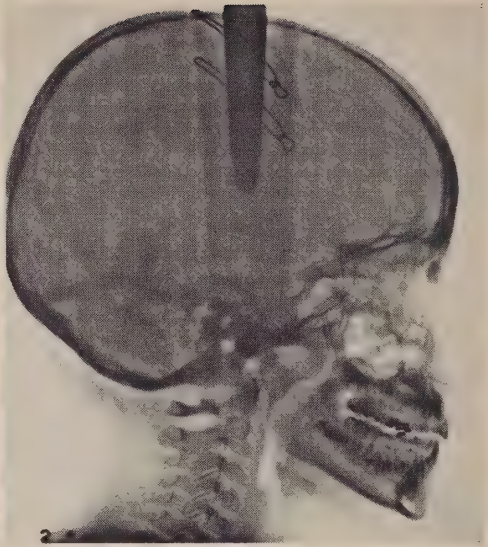


FIGURE 3
Print produced by the One-Stage Method

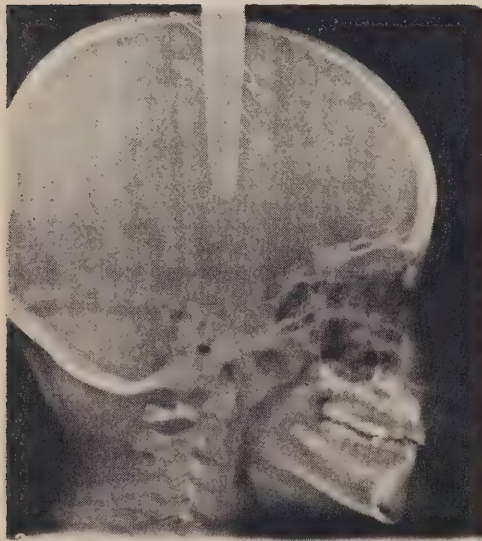


FIGURE 2
Print produced by the Two-Stage Method

image, i.e., the dark areas in the original are light in this. If a comparatively high dodging factor is employed, the contrast is distorted by reducing the high light, shadow, and mid tones to a common level, without losing detail. In this way, maximum detail is obtained in the dense areas of the radiographs.

From this film a print is made on a water-resistant paper (Kodak Resisto Rapid or similar paper). These prints are used instead of tracings. Pencil may readily be used straight on the print, which is a decided advantage over having tracing paper. There is no shrinking in this paper if the instructions for processing are followed carefully.

ONE-STAGE METHOD

When the radiographs are of good quality, they can be printed directly on water-resistant paper, but this print will

be a reverse picture of the original cephalogram. This reverse picture will influence the plotting of the landmarks in the same way as over- or under-exposure. The significance of this influence is being studied.

The advantages of these prints are as follows:

- New landmarks and measurements can be incorporated without difficulty.
- Errors in marking are more easily detected.
- The anatomical picture is kept in the tracing.

RÉSUMÉ

Les auteurs décrivent une nouvelle technique pour tracer les données de l'encé-

phaloradiographie, en se servant d'un appareil électronique pour reproduire l'image de la radiographie. Cette méthode peut s'appliquer de deux façons. Dans la méthode à "deux phases", la reproduction est faite sur un film commercial à grains fins. On obtient une impression de ce film sur un papier aquafuge. On se sert de ces reproductions plutôt que de tracé. Dans la méthode à "une phase" des radiographies de qualité sont imprimées directement sur du papier aquafuge, en donnant une image renversée du céphalogramme original.

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124 Edward Street.

An Economical Culture Incubator for Endodontics

P. J. KIRBY, D.D.S., Edmonton, Alberta

The present paper describes a low cost incubator for dental use. Commercially available incubators are priced from forty dollars while the total cost of the incubator described here was less than seven dollars. This cost could undoubtedly be reduced by using scrap material that is available in every home workshop.

The device has proven satisfactory for incubating endodontic cultures during several months of constant use.

Materials used were:

1. One-quarter inch fir plywood to form a box 12 x 8 x 8 inches.
2. Two small hinges for the door.
3. A magnetic door catch (any suitable door catch could be used).
4. An ordinary 110 volt light socket and line cord with a two-pronged plug at one end.
5. A sixty watt light bulb.



FIGURE 1

Endodontic Culture Incubator



FIGURE 2

Incubator with insulation removed to disclose light bulb.

6. A thermostat for automatic temperature control within the incubator box. The thermostat used was an Oakes snap switch No. HE 99 B manufactured by the Oakes Manufacturing Co. Inc., Tipton, Indiana, U.S.A. This thermostat is available at most chick hatcheries or poultry supply houses.
7. A butter thermometer was used (any reasonably accurate household thermometer would be satisfactory).
8. Sheet metal and asbestos insulator was used to surround the light bulb. (The sheet metal was obtained from a fruit juice can and the asbestos lining from a one and a quarter inch roll of asbestos available at any hardware store).

The method of construction and assembly can be determined from the accompanying figures.

The temperature range for the incubator was adjusted to 98 degrees $\pm$ 2

degrees F. The adjustment was achieved by manipulating the black knob. This was then adjusted so that the light went out at this temperature. It was found that this simple procedure completed the adjustment as the light bulb automatically came on when 96 degrees F. was registered on the thermometer.

RÉSUMÉ

L'auteur détaille la construction qui peut se réaliser à peu de frais d'un incubateur pour les cultures d'endodontie. Les matériaux nécessaires sont: du bois contreplaqué, deux pentures de porte, un fermoir magnétique, une petite douille pour du 110 volts, du fil électrique, une fiche électrique à deux tiges, une ampoule de 60 chandelles, un interrupteur de courant "Oakes" thermostat No. HE 99 B, un thermomètre à beurre, une boîte d'étain à conserves défectueuse et de l'amiante d'un quart de pouce. La température de l'incubateur peut se régler de 98°F à 2°F.

203 Medical-Dental Bldg.

Oral Manifestations of Blood Dyscrasias*

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Blood dyscrasias, diseases of the blood and blood forming organs, are of extreme importance to the dentist for the following reasons. First, many of the blood dyscrasias have oral manifestations; second, many of the initial manifestations occur in the oral region; and third, the presence of a blood dyscrasia may alter dental treatment. A procedure which could be carried out on a normal patient cannot be accomplished on a patient who has a blood dyscrasia; for example, scaling procedures with purpura or extraction of teeth for a patient who has leukaemia. Both procedures may result in death of the patient. Because so many blood dyscrasias have oral manifestations which are often the initial symptoms, it is imperative that the dentist recognize these symptoms, both from the standpoint of diagnosis and treatment. Where the initial manifestations are in the oral region, the patient frequently presents to the dentist for diagnosis and treatment. It is the dentist's responsibility to recognize the disease and make the diagnosis even though he will not be responsible for the treatment of the blood dyscrasia. The recognition of the blood dyscrasia resulting from an assessment of the patient's signs and symptoms is necessary to provide adequate treatment of his oral

symptoms. For this reason it is imperative that the dentist knows the signs and symptoms and can recognize the patient with a blood dyscrasia. He should also know which treatment is indicated when patients with known blood dyscrasias are referred for treatment. Before discussing the signs and symptoms of blood dyscrasias, a brief review of the physiology of blood and a simple classification of the blood dyscrasias would seem appropriate.

Blood is a tissue, the same as liver, spleen or brain. It is composed of cells in a matrix, but in this case the matrix is fluid and called plasma, while the parenchymal cells of other tissues are fixed in position by fibrous connective tissue and therefore the organ or tissue has fixed form while the blood is fluid. The blood is composed of several types of cells in varying numbers and of different origins (Table 1). Plasma contains elements which are essential in the clotting mechanism, especially prothrombin which is formed by the liver. Therefore, in a patient with liver disease or with jaundice, the prothrombin level is low, the blood clotting is prolonged, and the individual has a prolonged bleeding time. The prothrombin may be inactivated by therapeutic agents such as heparin, dicumarol and other anticoagulants as is done for the patient with coronary disease, cerebro-vascular disease, or thrombophlebitis. Individuals on anticoagulant therapy behave the same as individuals with a disease that alters the clotting mechanism. It is important that this in-

* Read before the Annual Meeting of the Canadian Dental Association, Ottawa, September 25-28, 1960.

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TABLE 1 The Composition of Blood

Constituent	Quantity
Plasma Volume	6,000 to 8,000 cc.
Cells	
Red Blood Corpuscles per cubic millimeter	4.5 to 6 million Male: 5 million Female: 4.5 million
Haemoglobin	12 to 18 Gm. % Male: 14-18 Gm. % Female: 12-14 Gm. %
White Blood Cells per cubic millimeter	7,000 to 10,000
Polymorphonuclear Neutrophil Granulocytes	40 to 60 %
Lymphocytes	20 to 40 %
Eosinophils	1 to 3 %
Basophils	0 to 1 %
Monocytes	4 to 8 %
Platelets per cubic millimeter	200,000 to 500,000

TABLE 2 A Classification of Blood Dyscrasias

Constituent	Dyscrasia
Red Blood Corpuscles	Polycythaemia Compensatory Vera Anaemia Pernicious Aplastic Secondary Iron Deficiency Haemorrhage
White Blood Cells	Leukaemia Myelogenous Monocytic Lymphatic Malignant Neutropenia Agranulocytosis
Platelets	Non-significant Increase in Number Thrombocytopenic Purpura Allergic Purpura Vitamin C Deficiency Anticoagulant Therapy
Plasma	Haemophilia

formation be obtained from the history and the patient be treated accordingly. A patient who has gingivitis and is on anticoagulant therapy may present for bleeding gums. The knowledge that the patient is on anticoagulant therapy is all-important in planning treatment.

There are other rare forms of plasma alterations, but because of their rarity these are not considered here. All of the cellular elements of the blood may be altered by an increase in the number or a decrease in the number of cells, and

each situation is indicative of a disease. Table 2 indicates the blood diseases which are described below.

POLYCYTHAEMIA

Polycythaemia indicates that the individual has a greater number of blood corpuscles per unit volume of blood than normal. Therefore, he will have an increased red blood corpuscle count. The count may be elevated to seven or seven

and a half million. This increases the viscosity of the blood and increases the intravascular pressure as well as the load on the heart. There is also a decrease in the rate of flow and the blood contains a high percentage of reduced haemoglobin. This imparts a dark colour to the blood which will be manifest regardless of whether the individual has a true or physiological polycythaemia.

Physiological polycythaemia is a compensatory mechanism for overcoming decreased oxygen tension at the cellular level. If a patient has cardiac disease, pulmonary disease, or is residing at a relatively high altitude where the oxygen tension is low, there will be less uptake of oxygen and therefore less oxygen at the cellular level. To compensate for this deficiency there is an increase in the number of red blood corpuscles to increase the haemoglobin and thereby increase the oxygen-carrying capacity of the blood. True polycythaemia is the result of a disease process of the bone marrow in which an abnormal number of corpuscles are produced regardless of the oxygen demand. The end result in both cases is the same, resulting in the increased concentration of the blood.

The patient with polycythaemia has a dusky purplish skin colour which is also manifest in the mucous membranes and is more easily seen in these areas. The lips, therefore, appear cyanotic as does the buccal mucosa, floor of the mouth, and the tongue. The individual may complain of headache as the result of the increased intravascular pressure; and if associated with pulmonary disease or cardiac decompensation, the patient may have shortness of breath. The individual will also give a history of prolonged bleeding following trauma. Due to the increased intravascular pressure there is a tendency for capillary oozing to continue for an abnormal period of time. We are concerned primarily with the individual who has polycythaemia following the extraction of teeth. This individual may exhibit a seeping type of haemor-

rhage for a long period of time due to the increased intravascular pressure. The loss of blood in such situations is of no significance to the individual as he already has too many red blood corpuscles per unit volume; therefore, the loss of a few corpuscles does not become of concern.

ANAEMIA

Anaemia is a generic term indicating a reduction in the number of red blood corpuscles or a reduction in the haemoglobin content of the individual cells. There are, therefore, a variety of types of anaemia.

Pernicious anaemia is a deficiency disease which occurs as the result of failure of the production of red blood corpuscle maturing factor. Red corpuscle maturing factor is produced by the action of gastric juice upon food, is stored in the liver, and is necessary for the red corpuscles to reach full maturity. Pernicious anaemia therefore is primarily a deficiency disease. The deficiency, however, is in association with the failure of function in the gastrointestinal tract. The individual who has pernicious anaemia has atrophy of the gastric mucosa and achlorhydria. It is this atrophy and associated achlorhydria that fails to produce the red corpuscle maturing factor, and for this reason liver extract is used in the treatment of pernicious anaemia. Sometimes, when the individual is sensitive to liver extract, folic acid can be used, and it appears that the red corpuscle maturing factor is closely related to folic acid. The atrophy which is manifest in the stomach is also manifest in some other areas of the gastrointestinal tract, especially the oral cavity; therefore, atrophy of the oral mucosa is a relatively common finding and is one of the signs of pernicious anaemia. Along with the atrophy, which frequently is manifest first on the lateral borders of the tongue, there is also an associated pain. The pain is a burning sensation described or defined as glossodynia. The early burning of the lateral borders of the tongue and

the mild atrophy are the initial changes seen in the oral cavity. These changes may be present for a period of time before the individual is actually aware that he has anaemia or before the diagnosis can be confirmed. The individual also has a pallor. This pallor is also manifest in the oral mucosa so that the oral cavity appears lighter pink than normal. Due to the rapid breakdown of the immature cells which are present, the individual may also demonstrate a mild degree of icterus with a lemon tint to the skin and mucous membrane. The place where this colouration can be most easily recognized is in the sclera of the eye, as the pigmentation of the skin and mucous membrane is not intense and may be covered by physiological pigmentation. The individual with pernicious anaemia also complains of shortness of breath, tendency to fatigue, and numbness and tingling of the extremities. However, the patient presents himself to the dentist primarily because of the glossodynia which he frequently will try to explain on the basis of irritation to the tongue from a rough tooth or from a dental appliance. If the burning tongue is associated with anaemia, then there will be an associated atrophy. The atrophy and the burning tongue are referred to as Hunter's glossitis. Many patients who are postmenopausal will also complain of burning tongue, but they do not have the associated atrophy which is found in the individual with pernicious anaemia. The treatment for the glossodynia is the treatment of the anaemia. However, the recognition of the symptoms and recommendation of blood studies for diagnosis are the responsibility of the dentist.

A second form of anaemia is aplastic anaemia, sometimes also referred to as primary anaemia. This is a disease process of the bone marrow in which normal red blood corpuscles are not produced and abnormal cells are produced in reduced number. This form of anaemia is frequently congenital and is designated by different names depending upon certain

characteristics of the anaemia. One variety which is frequently seen in negroes is designated as sickle-cell anaemia. Another variety which is seen in individuals whose racial stock is from the area of the Mediterranean basin is referred to as Cooley's anaemia or Thalassaemia; it is also sometimes called Mediterranean disease. Because it is congenital or hereditary in nature, it is seen in young individuals. The manifestations of this form of anaemia are increased bulk of the bones of the face and skull. The maxilla, especially the anterior maxilla, is enlarged and prominent. The malar processes and the frontal fossae are also enlarged and the skull is thickened. The enlargement of the maxilla results in spacing of the teeth. The increase in bulk of the maxilla and the spacing of the teeth are due to the haemopoietic activity which takes place in the medullary bone. The bone marrow hyperplasia is an attempt on the part of the bone marrow to produce a more adequate number of cells. The changes which are seen in the skull have the "wire brush" effect and are due to the loss of the outer table of the skull in association with the increased production of marrow and the proliferation of the medullary bone. These are the characteristic manifestations in the individual with aplastic forms of anaemia. The treatment is at the discretion of the haematologist, but the dentist should recognize the nature of the changes that are present in disturbing the dentition and should realize that these cannot be corrected by the ordinary orthodontic procedures.

The third form of anaemia is referred to as secondary anaemia. This may be caused as a result of massive haemorrhage. The individual has a marked reduction in the number of red blood corpuscles per unit volume but this is of a transient nature. Anaemia may also be secondary to prolonged haemorrhage in situations where the individual loses small quantities of blood over a long period of time, such as a bleeding peptic ulcer or haemor-

rhoids. With chronic loss of blood there is also a loss of iron which exceeds the dietary intake; therefore the individual has insufficient iron to produce a normal quantity of haemoglobin and he is said to have an iron deficiency anaemia. This form of anaemia is frequently seen in the female in association with the loss of blood of the menarche. Secondary anaemia is treated by overcoming the chronic haemorrhage and the administration of iron to build up the haemoglobin level. The oral manifestations which are associated with secondary anaemia are of the same varieties as seen with pernicious anaemia but usually not to nearly as extensive a degree. The individual may have mild burning of the tongue and mild atrophy of all of the oral tissue. The oral mucosa is pale, smooth, and shiny. Lesions in the individual with anaemia do not heal as satisfactorily as in normal individuals.

LEUKAEMIA

Pathological increase of the white blood cells is designated as leukaemia. Leukaemia is due to a neoplasm of either bone marrow or lymphoid tissue with the neoplastic cells being discharged into the peripheral blood. It is the presence of the neoplastic cells in the peripheral blood which makes the designation of leukaemia. Leukaemias are classified according to the type of cell from which the neoplasm originates and the character of the neoplastic cell found in the peripheral blood. If it represents the myeloblastic series or polymorphonuclear cell, then the leukaemia is designated as myelogenous. If the large mononuclear cell is the parent type of cell, then the leukaemia is designated as monocytic leukaemia. When the neoplasm is of lymphoid tissue and the lymphocyte is the parent type of cell, it is then called lymphatic leukaemia. In dentistry we are not concerned with the particular type of leukaemia which the patient has as all types of leukaemia produce similar oral manifestations. We are

primarily interested in the recognition of the changes which indicate that the patient has leukaemia. The recognition of the type and the treatment of the disease is the prerogative of the haematologist. We are concerned only with the treatment of the oral manifestations and with the recognition of the changes that indicate that the patient has leukaemia. In approximately half of the patients who have leukaemia, the oral manifestations are the initial manifestations, and therefore the patient frequently presents to the dentist for diagnosis. His recognition of the presence of the disease is the important thing. The initial complaint of the patient who has leukaemia is usually bleeding of the gingival tissues with areas of gingival ulceration and a foul taste in the mouth. The symptoms are those which are seen in association with ulceromembranous gingivitis (Vincent's infection), and for this reason the patient seeks the advice of his dentist. Not infrequently when the patient seeks the advice of his physician the diagnosis of Vincent's infection is made and the patient is referred to the dentist. This does not relieve the dentist of the responsibility of recognizing that the patient has leukaemia. In leukaemia there is marked thickening of the free gingival margin which has a rolled appearance and some tendency to stand away from the teeth. The gingiva is soft in texture and varies anywhere from pink to purplish in colour. There may be areas of interproximal and crevicular ulceration with the production of a pseudomembrane simulating Vincent's infection and a marked tendency for haemorrhage of a spontaneous nature. Often the process of bleeding is prolonged and the tendency for necrosis continues so that in a relatively short period of time all of the teeth may become loose. Haemorrhage usually occurs in those areas in which there is a previous gingival irritation and ulceration, and the tendency to bleed superimposed upon the gingival disease is one of the reasons why the individual frequently has oral symptoms as early manifestations. There is a marked

gingival hyperplasia because the gingival tissues are infiltrated with numerous neoplastic cells. Neoplastic blood cells in the peripheral blood enter the terminal capillaries and pass into the gingival tissue where they markedly increase the bulk. The bleeding tendency is due to the fact that the bone marrow is replaced by neoplastic tissue and does not produce platelets to initiate the normal clotting procedures. Because of the alteration in gingival circulation, there is reduced vitality in the gingival tissue, and the superimposition of Vincent's organisms is responsible for the areas of gingival necrosis. In most cases the individual can have some alleviation of gingival symptoms by very careful removal of the debris from the gingival sulcus and the removal of subgingival deposits. These procedures must be done without producing trauma. The large pieces of deposit can be initially removed, and twenty-four hours later when there is some reduction in bulk of gingival tissue, more thorough prophylaxis can be accomplished. However, at no time should the instrumentation be so rough as to produce haemorrhage or introduce organisms into the tissues. Along with the scaling procedures, it is desirable to remove the soft debris from the gingival sulcus by the use of peroxide which can be applied with applicators, the detergent action helping to cleanse the gingival sulcus. Such cleansing must be repeated at frequent intervals. This can be done by a nurse for those patients who are in hospital, and it may be done in ambulatory patients by a member of the patient's family. Under this very intense and meticulous regime, the gingival tissues will respond and often a haemorrhage can be completely controlled. This is one of the dentist's responsibilities in the treatment of the individual who has leukaemia. He may eliminate the chief complaint, although he does not cure the disease.

Nothing should be done for the leukaemic patient which will initiate haemorrhage or introduce infection. Re-

cently, a patient with myelogenous leukaemia, who had been discharged from the hospital, prevailed upon a dentist to extract an irritating tooth. Within seventy-two hours she was readmitted suffering from multiple skin abscesses, postorbital abscess, cavernous sinus thrombosis and widespread dissemination of infection with abscesses in all the viscera and brain. Since all her white blood cells were neoplastic, she had no defence against infection. The extraction induced a bacteraemia which developed into a septicopyaemia with extensive metastatic abscesses and a fatal termination.

AGRANULOCYTOSIS

Reduction in certain white blood cells is designated as malignant neutropenia or agranulocytosis. "Malignant" in this case does not connote a neoplastic process but refers to a severe and sudden reduction in white blood cells. Neutropenia indicates a decrease in the numbers of polymorphonuclear neutrophil granulocytes. The term granulocytosis simply refers to diminution or absence of granulocytes. Both terms, malignant neutropenia and agranulocytosis, indicate marked reduction in white blood cells, especially polymorphonuclear neutrophil granulocytes.

This disease process is usually caused by some depressant acting on the bone marrow. It may be as the result of toxic materials produced by microorganisms, but more frequently it is produced by the toxic activity of drugs, usually those drugs to which the individual has a hypersensitivity or idiosyncrasy. Any drug may be responsible for agranulocytosis, but it is most commonly produced by drugs containing the benzene ring. Drugs which cause agranulocytosis are the amidopyrine-containing drugs, amidopyrine being used in combination with aspirin and other drugs for the relief of mild pain. Therefore, they are the type of drugs that are frequently given for

postextraction pain. They are also frequently taken by women for the relief of menstrual pain. Due to the frequency with which these drugs are taken for the relief of menstrual discomfort, this disease is three times as common in women as it is in men. Its occurrence in physicians, dentists and nurses, who have access to these drugs, is also more common than among lay persons. Agranulocytosis may be produced by sulphonamides and by some of the antibiotics. It is also produced by some of the ataraxic drugs. The patient usually complains of malaise, low grade fever, and sore throat as the initial symptoms. The individual also develops areas of ulceration in the mucous membrane, especially the mucous membrane of the throat and the oral cavity. The ulcerated lesions frequently occur in association with the tonsillar crypts and are responsible for the complaint of sore throat. The ulcers are necrotizing, slowly progressive, gradually increase in size and depth, and show no tendency to heal. The surface of the ulcer is covered by a membrane which ranges in colour from white to dirty grey. Normally the ulcers of the oral cavity, which are traumatic or infectious in origin, have a yellowish membrane over the surface. But due to the presence of polymorphonuclear cells trapped in the fibrin, the membrane in agranulocytosis is grey or whitish grey in colour. If there is associated haemorrhage and decomposition of blood, then it is dark grey to black in colour. The appearance of the enlarging ulcer associated with a sore throat and malaise should suggest the possibility of agranulocytosis. Before the advent of antibiotics this disease was nearly always fatal; however, with massive antibiotic therapy it now has only a fifty per cent mortality. Along with the massive antibiotic therapy, bone marrow stimulants are given and sometimes blood transfusions. If the patient can be protected with antibiotics to prevent infection until such time as the bone marrow recuperates, the chances of recovery are good. If infection occurs

before the bone marrow recovers, then the individual develops septicaemia and the results are fatal. The dentist's responsibility is twofold in association with agranulocytosis. First, he should not prescribe or use drugs to which an individual has an idiosyncrasy; secondly, he should be sure that none of the drugs used for postextraction pain contain amidopyrine. The recognition of the process is important, and when it is suspected, the individual should be referred for white blood cell count. If this is low, then he should be referred to a haematologist for treatment.

PURPURA

The third cellular element of the blood is the blood platelets. These may be increased in number in rare situations, but increase in number is of relatively little significance. However, a decrease in the number of platelets results in a condition designated as thrombocytopenic purpura. Purpura itself is a symptom and not a disease. The term purpura simply implies a tendency to bleed, and therefore purpura may be produced by such diseases as vitamin C deficiency, the bleeding manifestations of leukaemia, or because of the reduction in the number of platelets. Lesions of the bone marrow with reduction in the number of blood platelets may cause purpuric manifestations. Similar marrow lesions may result in the formation of defective platelets which exhibit increased resistance to breakdown following liberation of blood. The bone marrow may be depressed and may not form platelets as the result of infection, as a result of the action of certain drugs and in leukaemia when the bone marrow is replaced by neoplastic tissue. The individual who has purpura bleeds extensively into any area of mild trauma and has prolonged bleeding upon rupture or loss of continuity of vessels. When the manifestations of purpura are superimposed in individuals who have gingival disease in which there is some

tendency for bleeding, the bleeding becomes very intense and prolonged and the individual may complain of continuous gingival bleeding. Many times the gingival bleeding is the symptom which the individual presents as his chief complaint. The gingival picture is one of seepage of blood from the cervical area and the gingival sulcus. It is an oozing type of haemorrhage sometimes with the accumulation of large masses of clot. In other cases the gingiva is markedly enlarged and altered in colour because of haemorrhage into the gingival tissues. In addition to the gingival bleeding the patient frequently has areas of ecchymosis in other areas of the mucosa. The individual frequently has areas of ecchymosis and petechial haemorrhage in the skin.

HAEMOPHILIA

Another form of bleeding disease is haemophilia. Haemophilia is a sex-linked hereditary disease which is transmitted by the female to her sons. The defect in the clotting mechanism of haemophiliacs is not definitely known, but a factor seems to be a lack of a sufficient amount of active plasma thromboplastin. Being hereditary, this is usually detected very early in life, and so diagnosis is not a problem as far as the dentist is concerned. However, the treatment of such individuals is a problem because it is sometimes necessary to extract teeth. Teeth may be extracted from a haemophiliac if he is adequately prepared in advance. The indi-

vidual should be admitted to hospital under the care of a haematologist who can prepare him for the extraction and then advise the dentist as to when the extraction should be done. Following the extraction the sockets should be packed with absorbable gelatin sponge and sutured tightly to reduce haemorrhage to a minimum. The extractions should be done in the hospital so that if haemorrhage occurs, the haematologist can again have the patient available for control. It is much easier to prevent haemorrhage than it is to control it.

The foregoing review is intended to place the blood dyscrasias in their proper perspective in dentistry and also to provide some information about them which will help in the diagnosis and treatment of dental patients.

RÉSUMÉ

Le dentiste doit se préoccuper des maladies du sang parce que certaines d'entre elles ont des manifestations dans la cavité buccale et que d'autres peuvent modifier le cours des traitements dentaires. L'auteur fait une revue des maladies du sang, en se basant sur les anormalités du plasma, des globules rouges, des globules blancs et des plaquettes. Les symptômes cliniques de la polycythémie, de l'anémie, de la leucémie, de l'agranulocytose, du purpura et de l'hémophilie sont exposés en rapport avec leur répercussion dans les traitements dentaires.

University of Michigan.

DENTAL PUBLICATIONS OF CANADA

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ABSTRACTS

The Use of Epinephrine in Local Anaesthetics for Dental Patients with Cardiovascular Disease: A Review of the Literature.

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There has been considerable concern among dentists in the past regarding the possibility of untoward effects of epinephrine in local anaesthetic solutions administered to patients with cardiovascular disease. Actually it has been demonstrated that epinephrine increases the duration and potency of the anaesthetic and prevents toxic manifestations due to the anaesthetic drug itself. Clinical studies have indicated that the epinephrine in anaesthetic solutions is not responsible for significant systemic effects. Conversely, there is evidence to support the view that the inadequate depth of anaesthesia obtained when epinephrine is not used results in an increase in pain, fear, apprehension and an increased release of endogenous epinephrine. The total dosage of epinephrine used for dental procedures is much less than is needed to produce a

positive pressor response, and usually is far less than is used for medical purposes. The endogenous epinephrine secreted by the patient's adrenal glands because of apprehension and pain caused by inadequate anaesthesia resulting from the exclusion of the vasoconstrictor from the anaesthetic solution far overshadows the amount of vasopressor in the solution. The evidence indicates that although the patient with cardiovascular disease reacts more unfavourably to pain, fear and apprehension than the normal patient, there is no clinically significant difference in the systemic effects of anaesthetic solutions containing epinephrine in normal patients and in those with cardiovascular disease.

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The Anticariogenic Effectiveness of a Single Application of Stannous Fluoride in Children Residing in an Optimal Communal Fluoride Area.

II. Results at the end of 30 months.

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This study involved the application of a single topical treatment of an 8 per cent aqueous solution of stannous fluoride at six-month intervals to one group of children, and an application of distilled water at the same intervals to another comparable group of children, when both groups have lived all their lives in a community which has, since 1950, fortified its water supply with fluorine at the optimal level. The fluorine was furnished as sodium silicofluoride.

The control and experimental subjects were examined every six months. Table I summarizes the caries increments in the two groups of children. After 30 months, 148 subjects were available for re-examination. In the control group there were 70 subjects who had a DMFT increment of 2.67 and a DMFS increment of 5.43. In the group treated topically with stannous fluoride, there were 1.22 new DMFT and

2.76 new DMFS. Both of these reductions are highly significant as shown by their low probabilities.

This study demonstrates the increased anticariogenic benefit of topical stannous fluoride therapy as an adjunct for caries prevention, even when the child's teeth have developed in the presence of optimal fluorides in the drinking water. Of particular interest is the anticariogenic effect resulting from topical stannous fluoride therapy as a function of the number of re-applications on newly erupting teeth. After 24 months, there were 694 newly decayed surfaces. In the group receiving 4 single applications of stannous fluoride at 6 month intervals, there were 682 newly erupted permanent teeth of which 31 became carious with 31 new surfaces. A difference of 74 per cent is represented in new DMF teeth and a difference of 76 per cent in new DMF surfaces.

TABLE 1—A comparison of the caries increments in two groups of children both of whom lived in an area containing the optimal amount of fluorine and one of which received a single application of distilled water at six month intervals and the other a single application of topical stannous fluoride throughout a 30-month period.

Group	No. of Subjects	Increments		Prox.	Occl.	B-L
		DMFT	DMFS			
6-month data						
Control	230	0.88 ± .08	1.56 ± .13	0.57	0.64	0.34
Text	232	0.57 ± .08	1.00 ± .12	0.28	0.50	0.22
Reduction		35%	36%	51%	22%	35%
P =		.007*	.002			
12-month data						
Control	195	1.41 ± .11	2.58 ± .21	1.06	1.04	0.48
Test	205	0.93 ± .09	1.81 ± .17	0.57	0.85	0.39
Reduction		34%	30%	46%	18%	19%
P =		.0007	.004			
18-month data						
Control	165	1.80 ± .14	3.49 ± .28	1.36	1.42	0.70
Test	176	1.16 ± .10	2.23 ± .20	0.79	1.03	0.41
Reduction		36%	36%	42%	27%	41%
P =		.0014	.0014			
24-month data						
Control	124	2.11 ± .19	3.91 ± .33	1.60	1.65	0.65
Test	134	1.13 ± .12	2.53 ± .27	0.31	1.10	0.61
Reduction		46%	35%	49%	33%	6%
P =		.0003	.004			
30-month data						
Control	70	2.67 ± .31	5.43 ± .62	2.81	1.79	0.83
Test	78	1.22 ± .17	2.76 ± .38	1.13	1.18	0.45
Reduction		54%	49%	60%	34%	46%
P =		.002	.004			

*Computed on the basis of the student's "t" test.

DENTAL PUBLICATIONS OF CANADA

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EDITORIALS

Saskatchewan Dentists Display Initiative

On April 25, 1959, Premier T. C. Douglas of Saskatchewan announced that his government was studying a complete health care program. In a radio broadcast on December 16, 1959, he described the compulsory, province-wide, government controlled medical care program which his government hoped to institute by 1961. At the same time he announced the intention of appointing an Advisory Planning Committee to study the extent of public health needs in the various fields of health care as related to a medical care program. The Advisory Planning Committee was formally established in the early part of 1960 under the chairmanship of Dr. W. P. Thompson, president emeritus of the University of Saskatchewan. The membership of the twelve-man committee is drawn from the College of Physicians and Surgeons of Saskatchewan, the University, the Saskatchewan Chamber of Commerce, the Saskatchewan Federation of Labour, the general public and the provincial government. Included among the committee's terms of reference are instructions to study "various methods of

financing programs . . . methods of remuneration . . . methods of administration . . . and the relationship which should exist between the administrative agency (of a compulsory health care program) and the bodies of professional self-government."^{1,2} The committee is required to make a final report to the government incorporating either the unanimous views and recommendations of its members or the views and recommendations of the majority and the minority.

The return to office of Premier Douglas' government following the provincial election of June 8, 1960 lent additional weight to the actions of the Advisory Planning Committee and therefore the College of Dental Surgeons of Saskatchewan wisely decided to prepare a brief outlining the views of the dental profession respecting the dental aspects of a government health care scheme.³ In its submission to the committee, the College emphasized the fundamental necessity for increasing the number of dentists and dental auxiliaries in order to underwrite any kind of province-wide dental care plan. The College

supported this view with a recommendation for the training and utilization of dental auxiliaries to render technical services under the direct supervision of a qualified dentist, in accordance with the policy of the Canadian Dental Association.⁴ The College made additional recommendations respecting dental health education for elementary school children, prepaid dental care for children, the establishment of a dental school at the University of Saskatchewan, greater inducements to attract dentists to rural communities, and government support for fluoridation.

Guided by consideration for the public interest, the College has advanced constructive proposals which merit the thoughtful attention of the Advisory Planning Committee. With respect to dental auxiliaries, the College recognizes a need for extending the availability of dental

care as well as a need to safeguard the interests of patients by retaining responsibility for the services rendered by such auxiliaries in the hands of the dentist. Taken as a whole, the proposals reflect the sincere desire of Saskatchewan dentists to solve the province's dental health problem in a spirit of cooperation and without the sacrifice of professional freedom. Their brief provides a basis from which further progress can be made. In that event, Saskatchewan may become the site of the most interesting development in the field of dental care on the North American continent.

REFERENCES

1. Canadian Medical Association, Department of Medical Economics. News and Views on the Economics of Medicine, No. 6 May 14, 1960.
2. Medical Economics. The Health Care Program in Saskatchewan. Canad.M.A.J. 82:1039 May 14, 1960.
3. College of Dental Surgeons of Saskatchewan. Dental Health Problems in Saskatchewan, January, 1961.
4. Transactions of the Canadian Dental Association, 1960. p. 32.

Endorsation of Commercial Dental Products

There appears to exist in the minds of some members of the profession confusion as to the position of the Canadian Dental Association in relation to the endorsation of commercial dental products.

Perhaps this is fostered by the fact that the American Dental Association, through its Council on Dental Therapeutics, examines and evaluates therapeutic agents and dental cosmetic agents either upon the request of the manufacturer or distributor or upon the initiative of the Council. Products are listed in Accepted Dental

Remedies and described in reports published in the *Journal of the American Dental Association* provided they meet standards of acceptance with respect to usefulness, composition, advertising and labelling. Such products are usually accepted for a period of three years. Acceptance is renewable and may be reconsidered at any time. Furthermore, the seal of acceptance of the American Dental Association may be used after acceptance of the product has been announced in the *Journal of the American Dental Association*.

tion or at the discretion of the Council on Dental Therapeutics.¹

In this way the American Dental Association provides the dental profession in the United States with prompt, reliable information on the status of recently developed dental products. A good many commercial manufacturers avail themselves of the recognition implied by the seal of acceptance and this is revealed by a casual glance through the advertising pages of the *Journal of the American Dental Association*.

The position of the Canadian Dental Association differs fundamentally from that of its American counterpart in several respects. In the first place it cannot be automatically assumed that a given brand product marketed in Canada is identical in composition and all other respects to the product marketed under a similar name in the United States and accepted by the American Dental Association.

Secondly, the Canadian Dental Association has no facilities for testing or evaluating dental products. Any such activity

would necessitate periodic sampling of the market and the setting up of an elaborate testing program. This is expensive and the Association has neither the authority nor the funds to engage in such activities. For these reasons the Canadian Dental Association has never permitted its name to be associated with brand name products and it is most unlikely that this policy will be changed.

Lest there be any misunderstanding with regard to the control of safety and the advertising claims made with respect to dental products sold in Canada, there already exists in the Food and Drug Directorate of the Department of National Health and Welfare an agency for this purpose in Canada. But like the Canadian Dental Association, the Food and Drug Directorate does not engage in any endorsement, implied or actual, of any brand name product marketed in Canada.

REFERENCE

American Dental Association. Accepted Dental Remedies 1961, Ed. 26.

Specialization in Dentistry

The proposals of the Committee on Specialists and Specialization of the Canadian Dental Association aimed at developing some uniformity in dental specialization are timely and welcome.¹ The need is obvious. The Canadian Dental Association recognizes the specialties of oral surgery, orthodontics and periodontology. Specialty certification, on the other hand, is a prerogative of the provincial licensing

boards, yet in three of the ten provinces specialty certification is not available. There is a great deal of variance in the recognition given to various specialties. Three provinces do not recognize any specialties at all, three provinces recognize three specialties, one province recognizes four specialties, two provinces recognize five specialties, and one province recognizes seven specialties. There is an

even greater diversity of requirements for specialty certification in the seven provinces where such certification may be had.²

The net result is the incongruity of a situation whereby a dentist with less academic training may be recognized as a specialist in one province while another dentist with more extensive training in the same field receives no official recognition in a neighbouring province. Left by itself, the present trend in some areas could lead to an alarming fragmentation which would obscure the main structure of dentistry, while in other areas specialty aspirants would be totally at a loss to know where and how to equip themselves in their chosen fields.

At the root of the problem is a divergence of opinion concerning the merits and demerits of specialization. LeRiche,³ writing of the social and economic consequences of medical specialization, states that "In a highly organized technological society it is natural that there should be increasing specialization in all fields of activity, including medicine." Citing various examples, he points out how specialization may increase productivity, facilitate the acquisition of accuracy, speed and skill, provide for a better distribution of tasks, economize in material, equipment and mental energy, and tend to increase the dissemination of knowledge and the development of new techniques. These advantages constitute an impressive catalogue of reasons justifying the principle of specialization. Indeed, the only disadvantage would seem to be that the occupation of a specialist becomes vulnerable if and when the morbid conditions

encompassed by his specialty become relatively uncommon — and unlikely event in the foreseeable future of dentistry.

Whether we like it or not, the need for the development of special skills in dentistry continues to exist. The general practitioner should have the right to feel, when he refers a patient on to a higher authority, that his patient is getting in fact advice and treatment beyond the scope which one may expect from the general practitioner. These are reasonable expectations and it is proper that they be satisfied by individuals whose skills are based on a measure of uniformity in training, qualification and accreditation relating to various specialty fields. The proposal to establish a Royal College of Dentists of Canada which would set out the academic requirements in specific specialties and would award a fellowship, F.R.C.D. (C.), to dentists who meet these requirements, should satisfy this need. Furthermore, establishing these requirements at a level which will meet the requirements for specialty certification in all provinces would strengthen the position of a Royal College of Dentists as the recognized co-ordinating authority in the dental specialties without impairing the certifying prerogative of provincial licensing boards.

REFERENCES

1. Canadian Dental Association, Committee on Specialists and Specialization, National Certification for Dental Specialists. J.C.D.A. 27:30, January 1961.
2. Transactions of the Canadian Dental Association, 1960, p. 221.
3. LeRiche, W. H. The Character of the Physician in Relation to Social and Economic Consequences of Specialization. Editorial. Canad.M.A.J. 83:912. October 22, 1960.

DENTAL PUBLICATIONS OF CANADA

"Alberta Dental Information" is published at 325 Tegner Building, Edmonton, Alta., by the Alberta Dental Association. "Information" appears six times a year. Dr. G. V. T. Clarke is the editor.

BUREAUX, COMMITTEES AND COUNCILS

Preparation of Manuscripts for Publication in the Journal of the Canadian Dental Association.

Council on Journalism

The Council on Journalism of the Canadian Dental Association has prepared the following outline of requirements for the guidance of authors who desire to prepare manuscripts for publication in the *Journal of the Canadian Dental Association*.

GENERAL CONSIDERATIONS

Most papers delivered at meetings of the Canadian Dental Association, provincial dental associations and local dental societies are referred to the editor's office where they are considered for publication in the *Journal*. Much time and effort can be saved if manuscripts are prepared in conformity with the style of the *Journal*. A paper that is not accepted for publication is returned to the author, and the Association will waive any further claim to it.

Original articles are accepted for publication with the understanding that they are contributed solely to the *Journal of the Canadian Dental Association* and that they have not been published elsewhere and will not be reprinted without permission.

Papers submitted for publication in the *Journal* should not be promised by the author to another organization for publication unless released by the editor's office of the Association.

Physical Preparation of Manuscripts — At least three copies of the manuscript should be made. The original and one carbon copy, together with all illustrations, should be given to the program chairman or transmitted directly to the editorial department of the Association. One copy of the manuscript should be retained by the essayist.

Manuscripts should be double or triple spaced, typewritten on 8½ x 11-inch bond paper, using one side only and leaving wide margins. Each page should be numbered.

Title—The title of the article should appear at the top of the first page of the manuscript with the main words capitalized. The author's name and degree should appear two lines below.

Gratitude—Expressions of gratitude to persons who have assisted in the preparation of an article are not printed in the *Journal of the Canadian Dental Association*.

Signature and Address—Authors should use a uniform style in signing articles in order to facilitate indexing. The preferred form is R. G. Brown, but Robert G. Brown is also acceptable.

The academic and professional degrees of the author and the city and province in which he resides should follow his name. Earned degrees only are published. Honorary degrees are deleted.

The street address of the principal author should appear at the end of the paper following the reference list.

Introductory Footnotes — The name of the association or society before which the paper was delivered and the date and place of delivery should be given in a footnote. The

author's university, hospital or government affiliation should also appear in a footnote.

Use of Generic and Trade Names—Products, pharmaceuticals and appliances should be identified by their generic names throughout the report, using the trade name parenthetically in the first paragraph only.

Abbreviations — Abbreviations should be avoided wherever possible. If an operational procedure bearing a particular person's name is used, it should be one well known to the profession or defined in the standard medical dictionaries; otherwise it should be explained fully by the author.

Subheadings—Short subheadings or division headings are desirable in long or medium length papers. Manuscripts of less than a thousand words may not require them. Subheadings aid the author to present his material logically, enable the reader to select quickly the subtopics in which he is most interested and improve the appearance of the article by breaking up the pages of solid type.

Quotations—If narrative or pictorial material is quoted from another author, permission must be secured from both the author and the publisher in accordance with international copyright requirements. The responsibility for securing this permission rests with the writer.

Orthographic Style—The orthographic style of the English section of the Journal is governed by the Concise Oxford Dictionary. The orthographic style of the French section of the Journal is governed by Le Dictionnaire de l'Académie Française supplemented by the Grand Larousse Encyclopédique.

CONSTRUCTION OF A SCIENTIFIC MANUSCRIPT

Purpose of Article—Manuscripts submitted for publication in the *Journal of the Canadian Dental Association* should (1) present new facts, describe new techniques or methods of practice, or set forth or re-evaluate principles of real value, (2) Contain the results of well-controlled, original research or (3) provide a complete review of the facts concerning a particular subject so that the reader may deduce therefrom legitimate, important conclusions.

Research Articles—The formula for research investigations preferred by the Journal consists of eight parts: (1) the title, (2) an introduction, (3) an account of the materials and methods employed in the investigation, (4) the presentation of the original data, (5) discussion of the data, (6) a summary, (7) the conclusion, and (8) bibliographical references.

1. *Title*—The title designates the subject, attracts the reader and is the principal means by which an article is indexed. Interrogations should not be used as titles. Attention-getting titles are acceptable only if they express the content of the paper.
2. *Introduction*—The introduction should be restricted to matters which will enable the reader to begin the article with understanding. It should include a statement of the subject or problem to be discussed and, if advisable, a limited amount of historical data. A review of pertinent literature is valuable and often necessary. Numerous and extensive quotations from previous writers should be avoided, however, as they give the paper a hodge-podge appearance and detract from reader interest. Bibliographical references should take the place of extensive discussions of previously published material.
3. *Materials and Methods* — This account should include the materials, the animal or human subjects employed, the instruments and procedures of the investigation. Standard methods and equipment do not require description, and bibliographical references are sufficient for published accounts of methods or equipment.
4. *Original Data*—The original data should include appropriate charts, tables, graphs and other illustrations. Data presented in charts and tables should not be duplicated in the text.
5. *Discussion of Data*—Discussion of data consists of a presentation of the author's views, findings and conclusions based on the original data presented. The author may wish to compare his findings with those presented by others.
6. *Summary*—The summary should consist of a concise statement of the purpose of the article and should recapitulate observations or statements of fact.
7. *Conclusions*—The conclusions consist of

deductions based on the data presented or reviewed. They usually consist of numbered sentence statements.

8. **Bibliographical References**—Bibliographical references should be listed at the end of the paper. They should be numbered to correspond with the numbers placed in the text where they apply.

Account of a New Technique — An article presenting a new technical procedure or operation should be organized as a sequence of steps or stages.

Clinical Appraisal Reports — Clinical appraisal reports relating to new pharmaceutical preparations and other products will be considered for publication in the Journal provided the design and quality of the experiment and the conditions under which the study has been conducted meet acceptable scientific standards. The product must be identified by its generic name throughout the report, using the trade name parenthetically in the first paragraph only. The Journal assumes no responsibility whatsoever to the manufacturer regardless of whether the manufacturer supports the investigation with materials or financially, the report is favourable or unfavourable to the product, or the manufacturer pays for any special publication services such as coloured photographs.

References — Bibliographical references to articles published in periodicals should include the surname and initials of the authors, the title of the article, the name of the periodical, the volume number, the initial page number, month and year. Example: Roberts, R. G., and Johnson, P. W. Management of Temporomandibular Joint Dislocation. J.C.D.A. 25:472, October 1954.

References to text books should include the author's surname and initials, title of the book, edition, location and name of the publisher, and year of publication. Example: McIntosh, R. R., and Bannister, F. D. Essentials of General Anaesthesia, ed. 4. Oxford, Blackwell, 1947.

Illustrations — A maximum of 12 half-tone illustrations are reproduced free of charge to the author. Illustrations should be limited to such subjects as are mentioned in the text.

All submitted photographs must be glossy prints. Negatives must be made of radiographs and glossy prints made from the negatives if radiographs are required in the text. Illustrations should be numbered consecutively in the order in which they are to appear and should be referred to by number at the proper place in the text. Each illustration should bear the author's name. All photographs and illustrations should be numbered lightly on the back.

Short descriptive legends for illustrations and graphs should be typed on a separate sheet of paper and numbered to correspond with the numbers on the illustrations.

Drawings and graphs should be made on heavy, white cardboard or graph paper with India ink and not in colour. Graph paper should have a background of black lines if the background is to be retained.

Tables should be typed on separate sheets, giving a heading and numbered to correspond with the reference number that is inserted in the appropriate place in the text.

Résumés—French résumés of leading English articles and English summaries of leading French articles are prepared from summaries and conclusions of the original articles. French résumés are inserted at the end of an English article, immediately preceding the bibliographical references. English summaries of French articles are treated in a similar manner.

Alterations — Editorial alterations are made in order that the article may conform to the style of the Journal. The Concise Oxford Dictionary¹ is the guide used by the Journal for academic terms, and Black's Medical Dictionary² for medical and anatomical terms. Le Dictionnaire de l'Académie Française³ supplemented by the Grand Larousse Encyclopédique⁴ are used for French language material.

REFERENCES

1. The Concise Oxford Dictionary, ed. 4. Oxford, University Press, 1956.
2. Black's Medical Dictionary, ed. 23. W. A. R. Thompson, editor. London, A. and C. Black, 1958.
3. Le Dictionnaire de l'Académie Française, ed. 4. Paris, Hachette, 1932-5. (avec suppléments: Le Dictionnaire Alphabétique et Analogique de la Langue Française. Paris, Presse Universitaire de France, 1950+).
4. Grand Larousse Encyclopédique. Paris, Larousse, 1960+.

Self-administration of Fluorides

Council on Research

The Council on Research issued a statement on the self-administration of fluoride tablets in May 1959. The Council has recently reviewed the evidence relating to the use of tablets or concentrated fluoride solution for the partial prevention of dental caries and submits the following revised statement.

The value of adding fluoride to the diet in the form of tablets or concentrated solutions in the home for the partial prevention of dental caries has not as yet been adequately tested. Since these methods of administering fluoride differ considerably from that of communal water fluoridation, it should not be assumed that they necessarily carry the same health benefits.

Certain hazards are associated with self-administration of fluoride that do not occur with water fluoridation. The presence of fluoride tablets or concentrated solutions in the home constitutes a potential danger from

acute poisoning (as with many other pharmaceutical agents). If fluoride tablets or concentrated solutions are to be used, they should be provided only on prescription by a qualified dental or medical practitioner, only after the fluoride content of the home water supply has been ascertained, and only where continuous parental supervision can be assured over a period of many years. Details as to fluoride dosage, etc., may be procured by the dental or medical profession on request from the secretary of the Canadian Dental Association.

The use of fluoride tablets or of concentrated fluoride solutions, while worthy of further investigation, must not be considered a substitute for communal water fluorination which has been established as a controllable, safe, effective, and inexpensive health procedure for controlling dental caries, and which carries the endorsement of the Canadian Dental Association.

Dental Students' Register, 1960-1961

Bureau of Economic Research

The Bureau of Economic Research has prepared the annual compilation of dental students in Canada for the academic year 1960-61. This information has been derived from data submitted by the deans of Canadian Dental Schools.

ENROLMENT

There are 914 undergraduate and 47 graduate students enrolled in Canadian dental schools this year. Four per cent of the undergraduates are women. The class of 1963 (now in its second year) has 29 (10 per cent) fewer members than in its first year.

GRADUATES

In 1960, 215 students graduated. Seven of them were women.

COMPARISONS WITH PREVIOUS YEARS

There has been no real increase in students this year in the Canadian schools as a whole. Alberta has 15 more students this year than last and Manitoba has 22 more but Montreal, McGill, and Dalhousie all have fewer students this year. The number of graduates in 1960 was up 11 per cent over 1959. An increase by 20 of graduates from Toronto accounted for most of this 11 per cent. The number of first year students has declined slightly since last year. Only Manitoba and Alberta have increased their first-year enrolment. Over the past 10 years, however, the number of first-year students has increased by more than 50 per cent.

CAPACITY

The maximum capacity of the undergraduate classes of all schools is now 327. This year's increase of 20 was the result of Alberta's expansion program which will enable the dental school to accommodate 50 students per class in 1961.

ADVANCED STANDING

All schools will admit foreign graduates

with advanced standing; 29 of the present undergraduates were admitted with advanced status.

PREDENTAL TRAINING

Over 50 per cent of Canada's dental students have more than two years of predental education. Of the 1960 graduates, 45 per cent had a prior bachelor's degree. Bachelor's degrees can be earned during dental study at Dalhousie, McGill, and Manitoba but only six 1960 graduates from McGill actually did this.

RESIDENTIAL DISTRIBUTION

Ontario and Quebec have more dental students than the other provinces, but Manitoba now has the most students in relation to its population. It is interesting to note that in 1957-58, before the dental faculty opened in Winnipeg, Manitoba was ninth among the provinces in the number of dental students it had in comparison with its population. There are 26 Canadians at American schools while 61 Americans are enrolled in Canadian dental schools. More than one half of the students at Dalhousie, McGill and Alberta come from outside the province in which their dental school is located.

COST OF EDUCATION

The average estimated cost of the 4-year course has increased very little since last year (3.7 per cent from \$5,900 to \$6,100).

DENTAL HYGIENISTS

Toronto is still the only university training dental hygienists. This year there are 8 in the second year of the course and 21 in the first year.

TABLE 1 Undergraduates enrolled in Canadian dental schools, 1960-1961

Dental School	Total	Year			
		1st	2nd	3rd	4th
Dalhousie	54	13	15	12	14
McGill	140	38	33	35	34
Montreal	151	33	40	44	34
Toronto	371	111	111	77	72
Manitoba	64	27	19	18	0
Alberta	134	46	32	31	25
Total	914	268	250	217	179

TABLE 2 Women dental students, 1960-1961

Dental School	Total		Year			
	No.	Per cent	1st	2nd	3rd	4th
Dalhousie	0	0	0	0	0	0
McGill	5	3.6	0	0	2	3
Montreal	4	2.6	1	0	1	2
Toronto	25	6.7	9	6	5	5
Manitoba	2	3.1	0	1	1	0
Alberta	1	.7	0	0	0	1
Total	37	4.0	10	7	9	11

TABLE 3 Dental graduates registered at Canadian universities for further study

Dental School	Graduate*	Post-graduate**	Occasional***
Dalhousie	0	0	0
McGill	0	0	0
Montreal	0	10	0
Toronto	2	30	2
Manitoba	0	0	0
Alberta	3	0	0
Total	5	40	2

*Graduate students are those dental graduates registered in the graduate school of a university and proceeding to a Master or Ph.D. degree.

**Post-graduate students are dental graduates registered in the dental faculty proceeding to a degree (e.g. the B.Sc.D.), diploma or certificate.

***Occasional students are dental graduates who are taking post-graduate instruction in the dental faculty but are not proceeding to a recognized university degree, diploma, or certificate.

TABLE 4 Loss of first year students, 1959-1960

Dental School	1959 1st Year	1960 2nd Year	Loss	
			Students	Per cent
Dalhousie	18	15	3	16.7
McGill	38	33	5	13.2
Montreal	44	40	4	9.1
Toronto	119	111	8	6.7
Manitoba	24	19	5	20.8
Alberta	36	32	4	11.1
Total	279	250	29	10.4

TABLE 5 Students graduating from Canadian dental schools, 1960

Dental School	Graduates			Women Graduates as per cent of Total
	Total	Men	Women	
Dalhousie	14	14	0	.0
McGill	37	36	1	2.7
Montreal	42	42	0	.0
Toronto	94	88	6	6.4
Alberta	28	28	0	.0
Total	215	208	7	3.3

TABLE 6A Number of students enrolled in Canadian dental schools, 1951-1960.

Term	Total		Dental School					
	No.	Per cent Change	Dalhousie	McGill	Montreal	Toronto	Manitoba	Alberta
1951-52	755		49	145	140	300		121
1952-53	719	- 4.8	50	141	111	294		123
1953-54	707	- 1.7	50	142	98	299		118
1954-55	748	+ 5.8	48	138	130	313		119
1955-56	769	+ 2.8	47	136	161	310		115
1956-57	785	+ 2.1	47	137	184	305		112
1957-58	787	+ .3	53	141	176	310		107
1958-59	824	+ 4.7	55	144	178	319	21	107
1959-60	906	+10.0	60	145	172	368	42	119
1960-61	914	+ .9	54	140	151	371	64	134

TABLE 6B Number of students graduating from Canadian dental schools, 1951-1960.

Year	Total		Dental School				
	No.	Per cent Change	Dalhousie	McGill	Montreal	Toronto	Alberta
1951	295		12	37	69	152	25
1952	215	-27.1	12	36	55	85	27
1953	178	-17.2	14	34	20	75	35
1954	172	- 3.4	14	37	20	69	32
1955	174	+ 1.2	13	35	19	78	29
1956	168	- 3.4	13	33	20	76	26
1957	186	+10.7	11	29	34	78	34
1958	203	+ 9.1	16	34	49	75	29
1959	193	- 4.9	17	36	40	74	26
1960	215	+11.4	14	37	42	94	28

TABLE 6C Number of 1st-year students at Canadian dental schools, 1951-1960.

Term	Total		Dental School					
	No.	Per cent Change	Dalhousie	McGill	Montreal	Toronto	Manitoba	Alberta
1951-52	173		12	37	16	79		29
1952-53	172	— .6	12	35	20	75		30
1953-54	194	+12.8	12	32	43	77		30
1954-55	211	+ 8.8	13	37	55	75		31
1955-56	199	— 5.7	12	35	51	74		27
1956-57	206	+ 3.5	12	34	52	78		30
1957-58	194	— 5.8	13	34	39	80		28
1958-59	250	+28.9	14	38	57	90	21	30
1959-60	279	+11.6	18	38	44	119	24	36
1960-61	268	— 4.0	13	38	33	111	27	46

TABLE 7 Per cent increase in enrolment, 1940 to 1960 and 1950 to 1960

Dental School	All Students		Graduates		1st Year
	Since 1940	Since 1950	Since 1940	Since 1950	Since 1950
	%	%	%	%	%
Dalhousie	74.2	12.5	16.7	27.3	8.3
McGill	141.4	— 3.5	184.6	2.8	.0
Montreal	45.2	—23.0	82.6	.0	50.0
Toronto	76.7	— 2.4	67.9	—44.1	52.1
Alberta	162.7	17.5	115.4	—42.9	53.3
Total	101.3	3.5	83.8	—29.7	53.1

TABLE 8 Capacity of undergraduate classes

Dental School	Capacity
Dalhousie	25
McGill	38
Montreal	60
Toronto	124
Manitoba	30
Alberta	50
Total	327

TABLE 9 Students admitted with advanced standing

Country in which Student Graduated	Dental School					
	Dalhousie	McGill	Montreal	Toronto	Manitoba	Alberta
Scotland	1					1
England	1					
Iran		1				
Greece		3			1	
Poland			2			
Belgium			1			
Switzerland			1			
Germany					1	1
Hungary						1
Total	2	4	4	14	2	3

TABLE 10 Predental training of undergraduates

Dental School	2 Years	3 Years	4 Years	Canadian Degree		Degree from Outside Canada	
				Bachelor	Other	Bachelor	Other
Dalhousie	15	10	7	18	0	3	1
McGill	22	32	14	44	0	27	1
Montreal	0	0	0	146	0	5	0
Toronto	283	49	0	28	2	8	1
Manitoba	25	11	4	20	1	1	2
Alberta	101	6	3	24	0	0	0
Total	446	108	28	280	3	44	5
Per cent of Total Undergraduates							
	48.7	11.9	3.0	30.7	.3	4.8	.6

TABLE 11 1960 Graduates with prior Bachelor's Degree

Dental School	Total Graduates	Graduates with Bachelor's Degree	Per cent
Dalhousie	14	12	85.7
McGill	37	24	64.9
Montreal	42	42	100.0
Toronto	94	14	14.9
Alberta	28	5	17.9
Total	215	97	45.1

FIGURE 1 Compare with Table 15

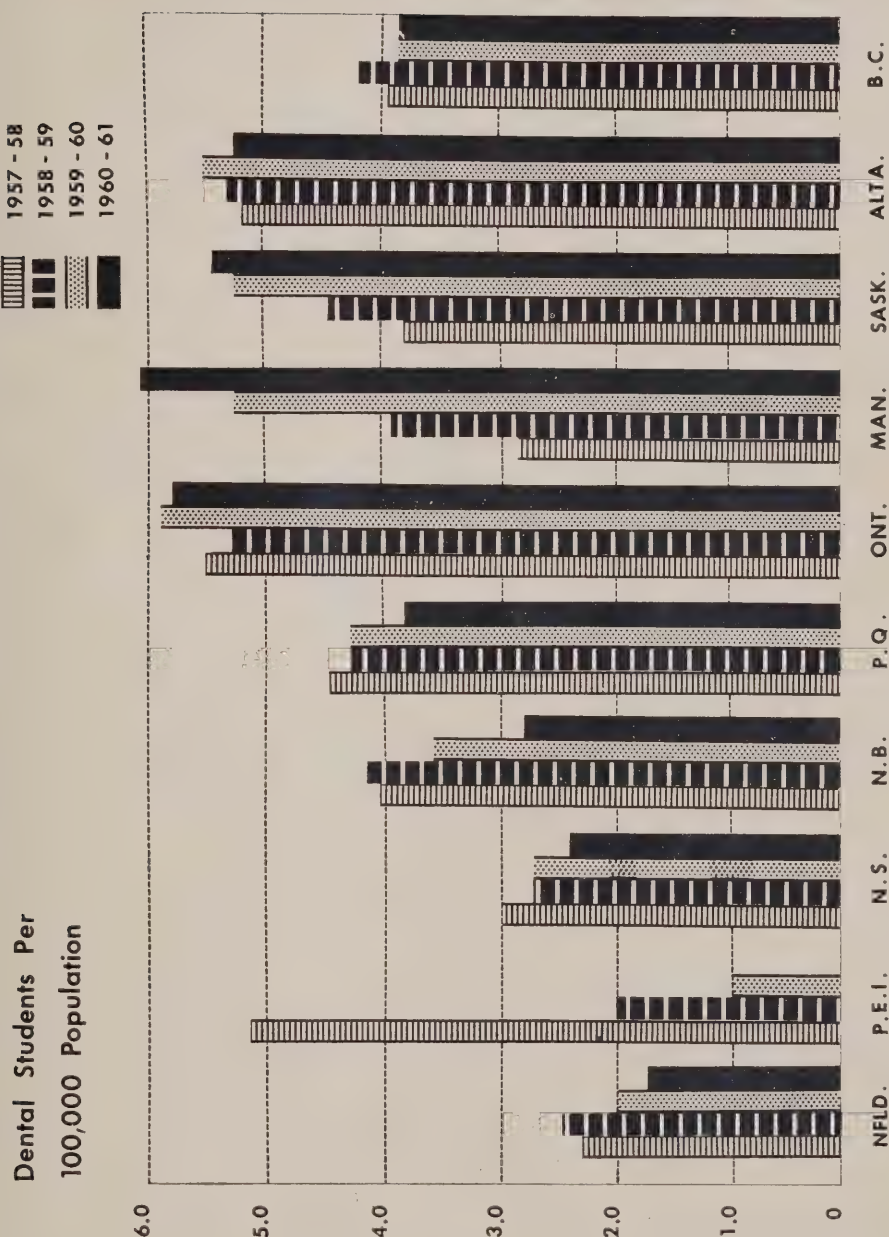


TABLE 12 Dental schools at which a Bachelor's Degree can be earned during dental study

Dental School	No. of 1960 Graduates Who Did This
Dalhousie	0
McGill	6
Manitoba	0

TABLE 13 Residential distribution of Canadian dental students, 1960-1961

Residence	Total		Dental School						
	No.	Per cent	Dalhousie	McGill	Montreal	Toronto	Manitoba	Alberta	All American
Nfld.	8	.9	8	0	0	0	0	0	0
P.E.I.	0	.0	0	0	0	0	0	0	0
N.S.	17	2.0	17	0	0	0	0	0	0
N.B.	17	2.1	13	0	4	0	0	0	0
Que.	200	23.9	1	60	137	1	1	0	0
Ont.	357	42.8	2	9	4	329	2	1	10
Man.	55	6.6	1	2	0	4	46	1	1
Sask.	50	6.0	0	4	1	3	9	33	0
Alta.	69	8.2	0	0	0	0	0	65	4
B.C.	62	7.5	2	5	0	11	3	30	11
Canada	835	100.0	44	80	146	348	61	130	26

TABLE 14 Ratio of dental students to population of home province, 1957-1960

Province	1957-58	1958-59	1959-60	1960-61
Newfoundland	1/42600	1/39818	1/49889	1/57375
Prince Edward Island	1/19800	1/50000	1/102000	
Nova Scotia	1/33429	1/37368	1/37684	1/42529
New Brunswick	1/24565	1/23080	1/28095	1/35294
Quebec	1/22338	1/23147	1/23469	1/25530
Ontario	1/18194	1/19343	1/16533	1/17056
Manitoba	1/34400	1/24857	1/18830	1/16345
Saskatchewan	1/25853	1/22200	1/18792	1/18200
Alberta	1/19016	1/18197	1/18014	1/18594
British Columbia	1/24783	1/23754	1/25323	1/25903
Canada	1/21799	1/22026	1/20544	1/21334

TABLE 15 Dental students per 100,000 population by province, 1957-1960

Province	1957-58	1958-59	1959-60	1960-61
Newfoundland	2.3	2.5	2.0	1.7
Prince Edward Island	5.1	2.0	1.0	...
Nova Scotia	3.0	2.7	2.7	2.4
New Brunswick	4.1	4.3	3.6	2.8
Quebec	4.5	4.3	4.3	3.9
Ontario	5.5	5.2	6.0	5.9
Manitoba	2.9	4.0	5.3	6.1
Saskatchewan	3.9	4.5	5.3	5.5
Alberta	5.3	5.5	5.6	5.4
British Columbia	4.0	4.2	3.9	3.9
Canada	4.6	4.5	4.9	4.7

TABLE 16 Residential distribution of students from outside the province in which the dental school is located

Residence	All Dental Schools	Dental School					
		Dalhousie	McGill	Montreal	Toronto	Manitoba	Alberta
Other provinces of Canada	155	27	20	9	19	15	65
Other Countries:							
U.S.A.	61	4	43	3	10	0	1
West Indies	13	1	11			1	
U.K.	3	2	1				
Br. Guiana	3		2				1
Bermuda	3	2	1				
Hong Kong	2		1			1	
Ghana	2						2
Others	18	1	1	2	13	1	
Total other countries	105	10	60	5	23	3	4
Total	260	37	80	14	42	18	69
Per cent of All Students at School							
Other provinces of Canada	16.9	50.0	14.3	6.0	5.1	23.4	48.5
Other countries	11.5	18.5	42.8	3.3	6.2	4.7	3.0
Total	28.4	68.5	57.1	9.3	11.3	28.1	51.5

TABLE 17 Dates of application, admission and graduation

Dental School	Freshman Application 1961	Term			
		1960-61		1961-62	
		Admission	Graduation	Admission	Graduation
Dalhousie	May 30	Sept. 7	May 18	Sept. 6	May 17
McGill	Mar. 1	Sept. 7	May 26	Sept. 6	May 27*
Montreal	July 1	Sept. 15	May 31	NA	NA
Toronto	June 1	Sept. 21	May 30	Sept. 20	May 29*
Manitoba	Apr. 30	Sept. 12		Sept. 12*	May 24*
Alberta	May 15	Sept. 7	June 5	NA	NA

*Tentative.

TABLE 18 Financial aid available to undergraduates and graduates

Dental School	Undergraduates		Graduates
	Scholarships	Loans	Scholarships &/or Fellowships
Dalhousie	Yes	Yes	
McGill	Yes	Yes	
Montreal		Yes	
Toronto	Yes	Yes	Yes
Manitoba	Yes	Yes	Yes
Alberta	Yes	Yes	Yes

TABLE 19 Estimated cost of four year course

Item	Average Cost	Dental School					
		Dalhousie	McGill	Montreal	Toronto	Manitoba	Alberta
Tuition	\$1,918.33	\$1,800	\$2,000	\$1,700	\$2,650	\$1,800	\$1,560
Instruments		1,025		1,000	500	1,000	868
Text Books	1,644.83	256	1,620	360	200	400	415
Supplies		75		...	...	200	400
Incidentals		300		350	600	200	100
Sub-total	3,563.16	3,456	3,620	3,410	3,950	3,600	3,343
Room & Board	2,583.33	2,500	3,000	3,000	3,000	1,600	2,400
Total	6,146.49	5,956	6,620	6,410	6,950	5,200	5,743

DENTISTRY IN THE NEWS

Canada and the Provinces

COUNCIL ON PUBLIC HEALTH HOLDS FIRST MEETING AT ASSOCIATION HEADQUARTERS

A recommendation to the Executive Council that the Section on Dentistry for Children and the Council on Public Health jointly sponsor a scientific session devoted to preventive dentistry and paedodontic practice at the annual meetings of the Canadian Dental Association was one of the decisions reached when members of the Council, and provincial and federal dental officials met at Association headquarters, January 25-26, 1961.

The Council also decided to consult the Council on Education respecting a survey of current undergraduate instruction in dental public health at Canadian dental schools.

The Council gave extended consideration to the conduct of dental health days and weeks in various parts of Canada, and endorsed the designation of a National Dental Health Day to be held during National Health Week.

Also approved was the preparation of an inventory of dental health teaching aids (pamphlets, radio and television scripts, press releases, visual aid materials, etc.) available from all sources. This was considered a prerequisite to the preparation of any new materials which might be required for a national dental health day program as well as for any other purpose. The Council also decided to revise the pamphlets "Facts", "Dental Health Guide", and "Healthful Living", and to study the possibility of preparing a booklet on water fluoridation for the guidance of municipal councils.

A National Dental Survey Committee was appointed to assume the responsibilities for technical services and decisions relating to the Canadian Dental Health Index. A limited translation into French of the C.D.A. Dental Survey Manual will be one of the first tasks of this committee. Composed of R. M. Grainger, chairman, Isabel Boyd, K. J. Payn-

ter and F. H. Compton, the National Dental Survey Committee will be a sub-committee of the Council on Public Health.

The Council reviewed the training, qualifications, remuneration, and terms of employment of public health dentists in Canada.

A request was made that the Executive Council consider the possibility of attaining a separate dental health grant within the structure of the federal government's national health grant program. Consideration was also given to dental services for physically disabled and mentally handicapped persons confined to institutions or residing at home. The Council decided to withhold further action in this area pending further study.

ALBERTA

Edmonton and District Dental Society — At the first meeting this year, the society honoured Dr. C. E. Eastwood and Dr. J. B. Carmichael upon completion fifty years of practice. Both were presented with a gold plaque to commemorate the occasion.

Dr. Eastwood graduated in 1910 from the Royal College of Dental Surgeons of Ontario and after spending a short time in Moose Jaw, Saskatchewan, came to Edmonton where he has practised ever since. Dr. P. J. Kendal introduced Dr. Eastwood and recalled many of their earlier associations. Probably the highlight of his career came when his son, Dr. B. J. Eastwood, joined him in practice at the Birks Building in 1942. Dr. Eastwood's wife passed away in 1950, but he maintained his old residence where he has lived since 1916. He has two sons, one daughter and twelve grandchildren. The Edmonton and District Dental Society joins his family in wishing Dr. Eastwood many more years of happiness.

Dr. J. B. Carmichael, also from Ontario, and a classmate of Dr. Eastwood, came west in 1911 and started practice in Medicine Hat before moving to Edmonton. He practised with Dr. Felix French for a while before



Two prominent Edmonton dentists were recently honoured by the Edmonton and District Dental Society on completion of fifty years in dental practice. Shown from left to right are J. B. Carmichael and C. E. Eastwood being congratulated by B. M. MacKenzie, society president.

Credit: Ernst of Goertz, Edmonton.

setting up his own practice in Edmonton. His wife is still very active in music and opera circles in the city. Dr. Carmichael was introduced by Dr. F. Gowda.

The guest speaker, Mr. Liknaitzsky, a member of the legal profession from South Africa, spoke on the future of the white man in Africa. He traced the history of South Africa for each group of the inhabitants and pointed out the inequities that have occurred. It was very enlightening to learn the reasons or at least causes for some of these.

The following new members were accepted into the society at the December meeting: M. M. Blackburn, A. Borkent, G. G. Fedoruk, C. E. Filipchuk, J. E. Greenaway, J. J. Hardy, P. J. Kirby, T. D. McCrae, A. E. Retzlaff, J. M. Venne and G. A. Wallington.

BRITISH COLUMBIA

Survey of Dental X-ray Equipment. — The Provincial Health Branch is sponsoring a survey of dental x-ray equipment throughout the province in order to ensure maximum safety for dentists and their patients. Regional dental consultants of the Health

Branch are showing the film "Dental X-Ray Equipment: Alterations for Modern Radiation Hygiene" at meetings of local dental societies. Advice is given on the most effective methods of achieving control of radiation hazards by the use of lead diaphragms, aluminum filters, high-speed film and adequate timer-cord length. A film monitoring service is provided in cooperation with the Radiation Protection Division of the Department of National Health and Welfare and a radiological technician is available to dentists on request.

Vancouver and District Dental Society — Well-known for his contribution to the field of endodontics, Dr. G. C. Hare, head of that department at the University of Toronto, spoke in the afternoon and evening at the January meeting of the Vancouver and District Dental Society.

The afternoon session was devoted to the subject "Extirpation of the Vital Pulp and the Bio-mechanical Preparation of the Root Canal for Obturation". In the evening Dr. Hare, who was introduced by Dr. Sheppard Margolese, discussed emergency endodontic treatment for children.

In replantation of the completely avulsed tooth a radiograph is taken to ensure that there is no splinter in the socket. The tooth is washed in running water, wrapped in gauze soaked in a saline solution and placed in a plaster cast. After two millimeters have been resected from the apex, root canal work is done, using for filling a silver cone which is rivetted in. The socket is washed out and the tooth seated to place and ligated with suture material. A splint similar to a bite plane is used to hold the tooth firmly in the socket. After ten days the splint is removed. A year later there is some bone resorption but at least the tooth is as good as a space retainer. The parent is advised that the tooth will be lost in about seven years.

Dr. Hare described the procedure for pulpotomy to retain vitality of the tooth until the root is formed. The tooth is anaesthetized and isolated with rubber dam. The roof of the pulp chamber is removed with a bur right up to the head of the canal. Chemically pure calcium hydroxide mixed with anaesthetic solution is carried into the pulp chamber to a depth of two millimeters and covered with cement.

Small corner fractures with pulp exposures, featured apices and several other interesting problems involving accidents with children's anterior teeth were also discussed by the lecturer.

In concluding, Dr. Hare gave this advice: "The day is past when we can remove a child's tooth with impunity. Extraction never solves a problem, it just presents a greater problem."

MANITOBA

Winnipeg Dental Society — The society is having a very successful year with large numbers of dentists in attendance at each clinical presentation and business meeting. Much credit must go to the executive for arranging a diversified program of excellent speakers. The executive for the current year comprises G. W. Danzinger, president; C. S. Rusen, vice-president; R. E. Wallace, clinic chairman; J. S. Norquay, secretary-treasurer; P. Goldberg, D. B. Proctor, committee members; and J. P. Beattie, past president.

One interesting clinical session was conducted by members of the staff from the Faculty of Dentistry, University of Manitoba. Dr. J. R. Trott, associate professor of Oral Biology, discussed Acute Gingival Lesions and Dr. M. J. Averbach, assistant professor

spoke on Chronic Gingival Lesions. Dr. Averbach, a past president of the Winnipeg Dental Society, recently completed post-graduate studies and holds a specialist's certificate in periodontology. Dr. W. R. Schram, professor of Oral Surgery, gave an excellent presentation on surgical problems daily encountered by the general dental practitioner. Dean J. W. Neilson of the Faculty of Dentistry is to be complimented for the high calibre of his teaching staff and for the favourable impression created by members of his staff in their appearances before the society.

Captain D. R. Frechette, U.S.N. was also an interesting clinician. A career dental officer in the United States Navy, Captain Frechette had an important message for civilian dental practitioners. The advantages of having access to large numbers of diversified naval personnel were clearly shown when this clinician discussed prosthetic appliances associated with abnormal jaw relations.

For the fourth consecutive year, the Winnipeg Dental Society and the Manitoba Dental Association sponsored a joint convention in January. Once again the main purpose was to attract dentists from outside Winnipeg to the annual business meeting of their association. The clinical, business and social functions were relatively well attended. Guest clinician at this meeting was Dr. J. M. Schweitzer who spoke on "Oral Rehabilitation" and "The Physiology and Mechanics of Human Mastication". A highlight of the luncheon business meeting, presided over by president G. W. Danzinger, was the presentation of two gifts to the Faculty of Dentistry, University of Manitoba — (1) an annual scholarship of \$100 to be awarded to the first-year dental student attaining the highest standing in anatomy, biochemistry and physiology, and (2) an initial payment to Dean Neilson from an accumulating fund to be devoted for library furnishings and similar purposes at the Faculty. These gifts are testimony of the excellent relationship existing between the Faculty and the society.

Manitoba Dental Association — The annual meeting of the Manitoba Dental Association was held, by courtesy of Dean J. W. Neilson and the authorities of the University of Manitoba, at the new dental school building on January 17, 1961. The meeting was well attended by dentists from Winnipeg and from the rural areas of the province. Dr. F. W. Parrott, chairman of the association board, presided during the first part of the agenda, including the introduction of fifteen new members to the association. In his presidential report, Dr. Parrott reviewed

many of the problems encountered during the past year and the solutions that had been found for some of them. He also predicted a number of events that are likely to occur in the coming year which will require the full cooperation of all society members. H. A. Allen, chairman of the Public Relations Committee reviewed the expansion of this committee's work. The employment of a public relations consultant had been most helpful and expenditure for this purpose had been well justified. W. J. Riley, Manitoba delegate to the Board of Governors of the Canadian Dental Association reviewed the work of the Board during 1960 and also reported on civil defence matters related to the dental profession in Manitoba. A. W. Finn gave a report on the work of the Mediations Committee which had been consulted on numerous occasions during the year. Most of the complaints referred to this committee had been settled to the satisfaction of all parties concerned.

T. J. Cooke reported as representative from Manitoba to the National Dental Examining Board of Canada. He also reviewed the legislative problems encountered earlier in the year which had culminated in the passage of certain amendments to the Manitoba Dental Act. Dr. Cooke warned association members that the provincial legislature intends to review these amendments as well as subsequent association activities and that every effort must be made to convince the legislature as well as the public that the efforts of the dental profession are guided by consideration for the public interest. An interim report on a plan for pre-paid dental care was presented by P. M. Jackin. W. W. Shortill, reviewed the establishment of a group life insurance policy under association sponsorship. He highly recommended the association's practice of having an insurance consultant.

Dean J. W. Neilson of the Faculty of Dentistry described the proposal for training auxiliary personnel for the dental office. Outlining what other dental schools were doing in this connection, he expressed his desire for the establishment of a training program for dental hygienists at the Faculty of Dentistry, University of Manitoba.

W. G. Campbell, conferred life membership on M. F. Bennett, Carman; N. C. Carmichael, Winnipeg; and E. M. Jones, Melita. Dr. Campbell also reviewed the financial statement for 1960 and the proposed budget for 1961.

Mr. A. H. Thorndycraft, lay member of the board of the Manitoba Denture Clinic, reviewed the activities of this clinic. He described some of the problems that had been encountered in obtaining suitable accommodation, purchasing necessary equip-

ment, employing assistants, securing a director and encouraging the public to utilize the clinic rather than the illegal laboratories for moderate-cost denture service. He stated his belief that the financial status of the clinic was satisfactory and would further improve as time went by. He particularly commended Drs. G. A. Buchanan, J. M. Grahame, A. Schwartz and M. J. Snidal for their services as members of the clinic board, and Dr. J. Y. Pierce, the clinic director. The association is most appreciative of the interest which Mr. Thorndycraft has taken in the clinic. He has been most helpful in the establishment of this clinic and in interpreting the purpose of the clinic to the general public.

The following were elected to the board of the Manitoba Dental Association for the ensuing year: W. I. Jackson of Winnipeg, president; F. W. Jones of Winnipeg, vice-president; A. D. McKee of Dauphin, and J. P. Beattie of Winnipeg as members of the board. J. Abra, who has served the association for many years, retired from the board.

The secretary-registrar, W. G. Campbell, reviewed the operations of Manitoba Dental Services which administers the dental portion of the provincial Welfare Act under which eligible individuals receive medical, dental and hospital care. Following protracted negotiations between the Manitoba Dental Association and the provincial government, the government allocates forty cents a month per welfare registrant for dental services to a fund from which dentists are paid for approved dental treatment. There are presently over eleven thousand registered welfare recipients, with an anticipated growth potential to twenty thousand registrants. Since the government was opposed to any arrangement whereby the recipient of dental treatment would contribute towards the cost of dental care, the imposition of certain restrictive limitations upon certain prosthetic and elective procedures became necessary in order to protect available funds. This necessitated the establishment of treatment priorities—a broad range of emergency treatments and a further group of elective procedures for which authority must be obtained. Requests to proceed with elective treatments are reviewed by a small committee of dentists. The initial demand for treatment, coupled with clerical and financial difficulties, caused some delay in effecting payments to members. However, if the demand that was initially generated with the institution of the plan, abates to a level which can be sustained by allocated funds, there would appear to be no reason why the other administrative problems cannot be satisfactorily overcome.

NOVA SCOTIA

Halifax County Dental Society — A symposium on the Role of the Dentist in Civil Defence was the subject at the regular monthly meeting of the Halifax County Dental Society on January 19, 1961. The speakers were Lt. Col. A. T. Rogers, R.C.D.C., Dr. J. E. Hallett, Dr. D. A. Eisner and Dr. J. E. Merritt. The four speakers described various aspects of the work dentists would be called upon to do in the event of a nuclear attack or other disaster.

Dr. Eisner described the two major types of casualties to be treated and outlined the management of haemorrhage and burns under adverse conditions. Dr. Hallett stressed the important role of the dental profession in helping to care for the large numbers of casualties resulting from such an attack who would be far in excess of the resources of the medical profession alone. In the event of a nuclear attack, there would be a great many people on the fringes of the explosion who would be injured by blast, flash heat, fire, flying objects and crushing. Lt. Col. Rogers explained that in the Royal Canadian Dental Corps, all ranks were given training at Camp Borden in first aid procedures as part of the national survival program. In addition, dental officers were given intensive training in the treatment of burns, fractures, the giving of transfusions, sedatives and injections. Dr. Merritt stressed the importance of establishing and maintaining an adequate airway in casualties with head and neck injuries or where the airway was blocked by some foreign object.

Dr. R. A. I. Epstein submitted a tentative plan for a dental clinic to serve indigent persons. He proposed that such a clinic be staffed by members of the society on a rotation basis. Dr. Epstein also suggested that further guidance be provided to dentists respecting toothbrushing and topical application of stannous fluoride in school children.

ONTARIO

Workshop Conference on the Role of Auxiliary Personnel — The Royal College of Dental Surgeons of Ontario has scheduled a Workshop Conference on "The Possible Role of Auxiliary Personnel in Dentistry" to be held at the Royal York Hotel, Toronto, on April 10, 1961. The purpose of this conference is to develop areas of agreement

relative to the function of auxiliary personnel and the services which auxiliary personnel, with appropriate training and under the responsible supervision and control of the dental profession, could perform in dentistry. This would be a basis for determining future legislative and educational policies in regard to dental auxiliary personnel in Ontario.

All local dental societies, specialty societies, clinical teaching departments at the Faculty of Dentistry of the University of Toronto, and the Royal Canadian Dental Corps have each been invited to send one official delegate to participate in the Workshop Conference. A general invitation has also been extended to practising dentists in Ontario.

Academy of Dentistry, Toronto — On Thursday, January 19, 1961, the Academy of Dentistry, Toronto, held its First Stated Meeting for the first time in the auditorium of the new Faculty of Dentistry buildings at the University of Toronto. The meeting was attended by approximately 200 members.

The clinician was Dr. H. A. Zander, head of the Department of Periodontology at the Eastman Dental Dispensary in Rochester, New York. His subject was "Recent Research Contributions to Periodontics", outlining studies with the electromyograph and with tracings which have clarified our knowledge in the field of occlusion. This research has led to an understanding of basic principles in occlusal adjustment which hold true for the orthodontist, periodontist, prosthodontist and for occlusal rehabilitation. In the field of periodontal diseases the greatest advances through research have been made in the area of calculus formation. Biochemistry, optical and electron microscopy have contributed to an understanding of calculus formation. Dr. Zander translated the research findings in these two areas into meaningful application for the practice of dentistry.

At the end of the presentation the members gathered in the excellent cafeteria at the Faculty for a social hour and coffee.

The Second Stated Meeting will be an all-day clinic at the King Edward Sheraton Hotel on Thursday, February 23, when Dr. R. W. Phillips of the University of Indiana will be the clinician. His subject will be "The Evaluation of Newer Dental Materials." The Third Stated Meeting will be held in the auditorium of the Faculty of Dentistry, University of Toronto, on Thursday, March 23 at 8.15 p.m. Dr. E. R. W. Bilkey will be the essayist on this occasion and his subject will be "Mediations".

Ontario Committee Favours Fluoridation — On Tuesday, February 21, the Ontario Fluoridation Investigating Committee submitted an extensive report to the government of Ontario. The committee was established on March 10, 1959 to enquire into all matters pertaining to fluoridation of public water supplies.

The report recommends that Ontario municipalities be permitted to fluoridate their water supplies without holding public plebiscites. The committee could find no danger to public health in fluoridation of water supplies. No infringement of personal rights or liberties is involved in instituting this public health measure, the report stated.

QUEBEC

Mount Royal Dental Society — The third general meeting of the Mount Royal Dental Society for the year 1960-61 was held on Friday, January 20, 1961 at the Queen Elizabeth Hotel in the form of an all-day session. The guest speaker was Dr. R. E. R. Lovell of Boston, Massachusetts, and his subject was "Conservative Anterior Restorations". The speaker was introduced by Dr. H. Rosen.

Dr. Lovell stressed the importance of the anterior teeth which, he stated, "represent the window of dentistry. It is by these teeth that the average person judges a dentition." Though these teeth are readily accessible, they are difficult to treat because of their diminished scale and the importance of aesthetic considerations in the front of the mouth. Resins do not satisfy the requirements of permanent restorations. The weakness of tooth-colour materials has led dentists to resort to full coverage which is also not the answer because of (1) possible pulp damage and (2) periodical disturbance as a result of irritation during and after the operation. Dr. Lovell discussed the factors which must be considered before choosing between gold foil, an inlay, amalgam, or one

of the tooth-colour materials — (1) size of the cavity, (2) position of the cavity, (3) previous restorations, (4) caries susceptibility, (5) age, and (6) economic consideration. He stated that ultra speeds are not very useful for intra-coronal work on anterior teeth due to the small area and the interference of the water spray with vision. The three-quarter crown, according to Dr. Lovell, still has a place in dentistry, but it requires more skill to place than a full crown.

Dr. Lovell described the technique for an invisible Class 3 gold foil preparation, emphasizing the separation of the teeth. He then outlined the technique for preparing and filling a Class 5 cavity with gold foil. He mentioned that the inlay is particularly good where much of the lingual surface is involved or where the periodontium is involved and the tooth will not withstand the forces of condensation. Inlays are also best for Class 4 cavities, while amalgam restorations are particularly indicated for distal-lingual preparations in cuspids. When cavities are present in two approximating teeth Dr. Lovell often prepares the distal one for an inlay and the mesial one for a gold foil restorations.

Montreal Chapter, Alpha Omega Fraternity — The annual all-day seminar of the Montreal Alumni Chapter of Alpha Omega Fraternity was held on Friday, January 13, 1961, in the main amphitheatre of the Montreal General Hospital. The guest clinicians this year were Drs. David Kohn and David Baraban of Boston, who spoke on the subject of Periodontal Prosthesis.

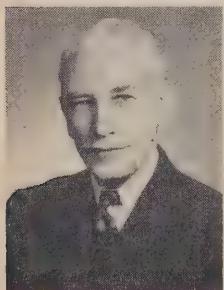
The morning lecture was given by Dr. Kohn who discussed some of the basic principles of periodontics, including the causes and treatment of periodontal disease.

Dr. Baraban delivered the afternoon lecture on prosthetics. He began by discussing and defining the terms centric relation, centric occlusion, and habitual centric. He then went on to discuss the selection of abutment teeth, preparation of the abutment teeth, the construction of bridges, and the fabrication of temporary splints. Both lectures were amply illustrated by slides.

As in previous years, all dentists in the city were invited, and a most excellent attendance was recorded.

The Montreal Alumni Chapter will be host to the fifty-fourth convention of the Alpha Omega Fraternity, December 27-31, 1961. H. H. Lank is Marshall and M. R. Lank is Deputy-Marshall for this meeting to be held at the Queen Elizabeth Hotel.

This is the first time the organization will



Dr. Wilfred J. Johnston, newly elected president of the Montreal Dental Club.

meet in Montreal. It is anticipated that 1,000 Fraters, undergraduates and wives will attend the scientific and business sessions as well as several social functions. The Alpha Omega Fraternity has some 14,000 alumni and undergraduate members in Canada, the United States and Israel.

SASKATCHEWAN

Saskatchewan College Presents Brief to Provincial Medical Care Committee. — Members of the Council of the College of Dental Surgeons of Saskatchewan, accompanied by the director of the Bureau of Economic Research and the secretary of the Canadian Dental Association, appeared before the Advisory Planning Committee on Medical Care at Saskatoon, February 8 to submit a brief outlining the views of Saskatchewan dentists on the problems of dental care in the province. The Advisory Planning Committee had been established by Premier T. C. Douglas, following the re-election of his government in June last year, to investigate the broad aspects of health care for Saskatchewan residents with respect to the provincial government's proposed compulsory medical care scheme.

Citing the acute shortage of dentists in Saskatchewan, the College stressed the need to increase the number of dentists and to develop a new type of dental auxiliary personnel as a prerequisite to broader distribution of dental care under whatever scheme might be developed for the province. The College coupled this recommendation with two further suggestions designed to encourage optimum utilization of available resources —(1) programs of dental health education for elementary school children in each provincial health region, and (2) the institution of prepaid dental care services for children.

To increase the availability of dental services in the province, the College recommended (1) vocational guidance designed to acquaint high school students with career opportunities in dentistry, (2) extension of the existing bursary assistance program for Saskatchewan dental students, (3) establishment of a dental school at the University of Saskatchewan, (4) greater inducements to attract dentists to rural communities, (5) increased financial aid from the government to assist the College in its post-graduate education program for practising dentists, (6) greatly increased utilization of hospital facilities for the provision of dental care, particularly in communities without resident

dentists, (7) increased support from the provincial government for the implementation of water fluoridation, and (8) the training of a new type of dental auxiliary at the University of Saskatchewan in order to extend the availability of dental care in the province. Indicating support for the training and employment of such dental auxiliaries under direct supervision of qualified dentists and in accordance with the policy statement of the Canadian Dental Association, the College assured the Advisory Planning Committee and the provincial government of its desire to cooperate in every way to improve the dental health of the people of Saskatchewan.

International Items

UNITED STATES

A.D.A. President Urges Positive Socio-Economic Approach to Health Care. — Addressing the Chicago Dental Society's 96th annual midwinter meeting on February 6, Dr. C. H. Patton of Philadelphia, president of the American Dental Association, warned the health professions in the United States that they must do more than oppose health proposals which they consider unworkable or undesirable. Dr. Patton declared that "the word 'no,' standing alone, is the most useless and irritating word in the language." He went on to say that "thundering anathemas against programs we do not consider workable without at the same time presenting more feasible techniques is a futile exercise and is not responsible leadership." In the socio-economic aspects of health care, Dr. Patton said, the lay man and the dentist play dual roles—the lay man as both patient and citizen; and the dentist as both practitioner and citizen. He continued: "If we are to win the full co-operation of the public in these areas of health care, and such co-operation is essential, we must give a full explanation of what we favour as well as what we oppose."

In clinical practice, he pointed out, the patient must often accept conclusions on the mere authority of the practitioner. This is so, Dr. Patton said, "because the lay man lacks the requisite background knowledge to follow the reasoning." In socio-economic areas, he went on, the situation is different and "the 'father knows best' attitude is neither effective nor wise." While the health professions still should vigorously lead, he

said, they are not in these areas acting primarily as dentists or physicians, but as citizens with expert knowledge.

Dr. Patton suggested three things which members of the health professions can do on the local level to clarify their position on these aspects of health care. "First of all," he said, "we must demonstrate that the goal of the health professions and the hope of the public are identical. Both aim toward the best possible care for all citizens." Dr. Patton continued: "We must also understand that men of good will do not always agree on a given issue . . . The fact that a man opposes some view of mine does not give me licence to call him names." Finally, Dr. Patton urged that members of the health professions thoroughly inform themselves on the issues involved. "Be ready," he said, "to offer constructive, feasible programs for the attainment of better health care . . . and to show conclusively that these programs truly meet existing needs."

Canadian Dental Schools

UNIVERSITY OF TORONTO

I.A.D.R. Annual Meeting — Several papers from the Toronto section will be presented at the annual meeting of the International Association of Dental Research in Boston, Massachusetts, March 23-26. These will include "Formation of Osteoblasts and Odontoblasts from Osteogenic and Odontogenic Cells," A. M. Hunt and K. J. Paynter; "Sulphate Metabolism in Rat Dentine," G. Niki-foruk and A. M. Hunt; "Topical Stannous Fluoride for Preschool Children," R. C. Burgess; "Prevalence and Interrelation of Malocclusion Manifestations and Aetiological Factors," R. M. Grainger; "Mycotic Activity in Rat Molar Tooth Germs," K. J. Paynter and A. M. Hunt; and "Facial Characteristics and Malocclusion," by E. Harvold and M. Hatton. Dr. G. Poyton will also attend this meeting. *Visit of Canadian Dental Association Survey Team*—The survey team of the Council on Education of the Canadian Dental Association, visited this Faculty for survey purposes during the week of February 20-24. The survey team was comprised of Dr. A. C. Lewis, former dean of the Ontario College of Education, Dr. H. W. Reid and Dean James McCutcheon of McGill University.

Summer Undergraduate Student Assistantships—A total of twenty-seven applications have been received from the undergraduate students from the first, second and third dental years for summer undergraduate assistantships as provided by the Associate Committee on Dental Research of the National Research Council. One first-year, two second-year, and one third-year student have been recommended for studentships.

Two second-year students have also been recommended for Canadian Dental Association summer undergraduate studentships.

Open House—On Sunday, February 12, 1961, the Dental Building was open for visitation by the public, students and staff of the University and their friends. Several members of the staff were in attendance in connection with demonstrations or safeguarding of equipment.

Request for Extracted Teeth—Dr. A. M. Hunt of the Division of Dental Research, wishes to obtain exfoliated or extracted primary teeth of children born in Toronto from 1952 up to the present time. The teeth from each child should be sealed in a separate envelope with the following information: date of birth, place of birth, residence of the mother during pregnancy, and whether the child was breast or bottle fed. Envelopes with the data printed on them may be obtained from the Division of Dental Research, University of Toronto, on request.

Royal Canadian Dental Corps

HEADQUARTERS NEWS

Colonel G. B. Shillington, Deputy Director General of Dental Services, paid a liaison visit to U. S. Navy Dental Corps' Headquarters in Washington, D.C., on February 2, following which he attended the American Denture Society Meetings held in Chicago, February 3-4.

Brigadier K. M. Baird has accepted an invitation to become a member of the editorial board of *Oral Health* magazine. In this connection, Lt.-Col. J. G. Butler of the Directorate staff represented Brigadier Baird at



R.C.D.C. FLASHBACK

Presentation to the late Lt.-Col. Roy Denholme on the occasion of his marriage. Surrey, England, April 29, 1944. Back row left to right: Lt.-Col. R. A. Gilbert, c/o 19 Coy; Col. E. M. Wansbrough, ADDS AIR; Lt.-Col. L. E. Kent, c/o 18 coy; Col. J. Edgecombe, ADDS 21 Army Group; Col. L. V. Vanes, DDDS-CMHQ; Lt.-Col. R. McDougall, ADDS-CMHQ; Lt.-Col. W. Trelford, ADDS-CRU; Lt.-Col. C. L. Strachan, c/o 16 CBD Coy, and Lt.-Col. J. Blair, c/o 15 CBD Coy. Front row left to right: Lt.-Col. G. Frawley, c/o 4 Coy; Lt.-Col. Roy Denholme, c/o 5 Coy; Lt.-Col. Fraser Allen, ADDS Army; Lt.-Col. G. Dawson, c/o 2 Coy, and Lt.-Col. R. Longstroth, c/o 6 Coy.

a meeting of the editorial board in Toronto on January 25.

COURSE ATTENDANCES

A senior officers' clinical course was held at The R.C.D.C. School, Camp Borden, during the period January 16 to February 17. In addition to clinical subjects the course included one week's training in Casualty Care and three days of public health dentistry. Those attending were as follows:

Commander L. M. Armstrong, U. S. Navy Dental Corps.

Lt.-Col. J. E. Lancaster, U. S. Army Dental Corps.

Lt.-Col. N. A. Butcher, H.M.C.S. Cornwallis, Cornwallis, N.S.

Lt.-Col. O. W. Crummey, Griesbach Barracks, Edmonton.

Lt.-Col. R. H. G. Cunningham, R.C.A.F. Station, Trenton, Ont.

Lt.-Col. W. R. Cunningham, H.M.C.S. Stadacona, Halifax, N.S.

Lt.-Col. A. R. Smith, R.C.A.F. Station, St.-Jean, Que.

Major J. J. Walker, R.C.A.F. Station, Cold Lake, Alberta, recently attended a course in Oral Surgery at Rent Air Force Base, Colorado Springs, Colorado.

Major L. R. Pierce of R.C.A.F. Station, Clinton and Major E. J. C. Small, Central Command, Oakville, attended the Physicians' and Dentists' Indoctrination Course at the Civil Defence College in Arnprior, Ont.



The above photograph, taken in No. 1 Air Division H.Q. Officers' Mess, Metz, France, shows Lt.-Col. G. R. Covey, Commanding Officer of No. 35 Field Dental Unit with the Honourable Douglas Harkness, Minister of National Defence.

POSTINGS

Changes in officers assigned to sea duty aboard Royal Canadian Navy ships have occurred recently. The following officers are now serving aboard the ships indicated:

H.M.C.S. Bonaventure—Major J. McGauhey

H.M.C.S. Cape Scott—Major C. G. B. Grant

H.M.C.S. Cape Breton—Captain D. G. Gardner.

Research

STANNOUS FLUORIDE STUDY IN OTTAWA

The Dental Health Division of the Department of National Health and Welfare is conducting a clinical study of annual topical application of eight per cent stannous fluoride to the teeth of school children. The subjects are 1,112 Ottawa grade 2 to 5 school children equally divided into experimental and control groups. The two groups are approximately equally divided as to sex, allocation to either group being made on the basis of random selection.

Base line data on caries prevalence in both groups were obtained prior to commencement of the study. Caries data is obtained by means of clinical examination. Children in both groups then receive a dental prophylaxis. A single topical application of eight per cent stannous fluoride solution is administered to the teeth of the children in the experimental group. Caries incidence is being measured in terms of decayed, missing and/or filled teeth and tooth surfaces.

The children have been seen, examined and findings charted for the first year interval and the treatment group received the stannous fluoride solution applied to the teeth. The study will continue at the end of the second year interval commencing early in 1961.

PRELIMINARY STANNOUS FLUORIDE RESULTS FROM KINGSTON, ONTARIO.

Major D. H. Protheroe, writing in the *Royal Canadian Dental Corps Quarterly* (Volume 1, No. 4, January, 1961) describes the preliminary results of a clinical investigation of the effect of topical application of a ten per cent aqueous stannous fluoride solution in 106 seventeen to twenty-one year old cadets at the Royal Military College, Kingston, Ont.

Caries attack rates were determined for a period of one year prior to the application of the stannous fluoride. At the end of the first year stannous fluoride was applied with a rubber dam in place, using a half-mouth technique, the opposite side of the mouth serving as the control side. Clinical examinations were accompanied by bite-wing

radiograph examinations and a prophylaxis prior to the application of the stannous fluoride. Prophylaxis, topical fluoride application, clinical and radiographic examinations were repeated at the end of the second year of the study. Final examinations will be carried out at the end of the third year of the study in September 1961.

Preliminary results at the end of the second year of the study, one year after the initial application of the fluoride solution, indicate a marked difference in the caries increments of 59.54 per cent when evaluated by the D.M.F.T. index and 41.54 per cent using the D.M.F.S. index. Interproximal surfaces seemed to benefit most from the protective effect of the stannous fluoride and it appeared that the effect on previously unattacked teeth was greater than on previously decayed or filled teeth. The use of the rubber dam appeared to increase the effectiveness of the stannous fluoride. These data are preliminary and subject to verification by independent statistical authority.

1961 IADR ANNUAL MEETING AT BOSTON

Boston, Massachusetts, and March 23-26 are the place and dates for the 39th Annual Meeting of the International Association for Dental Research.

Approximately 300 papers will be delivered

and several symposia are planned for this meeting in the Statler Hotel. The program will include such topics as dental caries (both human and animal), properties of enamel and dentine, wound healing, microbiology, nutrition and metabolism, and salivary studies. Close to 1,000 persons, including about 400 IADR members, are expected. The Dental Materials Group, composed of IADR members whose chief research interest is improvement of materials used in dentistry, will meet concurrently. About 50 research papers will be presented.

For the first time in the association's history, commercial exhibits will be a part of the 1961 meeting under supervision of the IADR and the American Association of Dental Schools, which meets March 26-29.

Specific program announcements will be made well in advance of the meeting, Dr. Holmes T. Knighton, School of Dentistry, Medical College of Virginia, Richmond, Virginia, IADR president, announced.

Founded in 1920, the IADR has as its purpose to promote the advancement of active research in all branches of dentistry and in related arts and sciences.

Its present membership of 1,121 includes scientists representing 22 sections throughout Canada and the United States, and groups in Argentina, Australia, Austria, Brazil, Colombia, Denmark, Egypt, Finland, France, Germany, Great Britain, Greece, Holland, Israel, Italy, Japan, Malaya, Mexico, New Zealand, Norway, South Africa, Sweden, Switzerland, and Uruguay.

Joint Meeting

THE CANADIAN DENTAL ASSOCIATION

and

THE WESTERN CANADA DENTAL SOCIETY

June 4-7, 1961

Bessborough Hotel, Saskatoon, Saskatchewan

BOOK REVIEWS

Theory and Practice of Crown and Bridge Prosthodontics

Prepared by: Stanley D. Tylman and Stanley G. Tylman.

Published by: The C. V. Mosby Co., St. Louis, 1960. Ed. 4.

Pages 1063. 1474 illustrations and 11 colour plates. Price: \$17.50.

The fourth edition of this fine textbook is as useful an addition to the library of any dentist or dental student as its predecessors have been.

Dr. Stanley G. Tylman, son of the original author, is a new contributor. The chapter dealing with the use of high and ultra speed instruments is largely his work.

Standard material, presented in previous editions, has not been disregarded but has been re-evaluated in the light of present knowledge. Recent advances in both the biological aspects of crown and bridge work and in dental materials have made this re-evaluation necessary.

New chapters have been added dealing with the uses of gold fused to porcelain and also with the use of the adjustable facebow, and the registration of the hinge axis in recording mandibular function.

Unfortunately, the section dealing with the mechanical principles involved in the construction of crowns and bridges seems to have been reduced in scope.

As in previous editions the authors discuss not only technical procedures that are carried out empirically but also the scientific basis for these procedures. It is perhaps this attempt at a scientific approach that gives this book its greatest value.

W. A. Boyles

Practical Orthodontics

Prepared by: George M. Anderson and Paul A. Deems.

Published by: The C. V. Mosby Co., St. Louis, 1960. Ed. 9.

Pages: 738. 719 illustrations. Price: \$18.00.

This is the ninth edition of a text book which was originally written by the late Dr. Martin Dewey and since his death has been

revised several times by Dr. George M. Anderson. In the present edition Dr. Paul A. Deems, former associate professor of clinical oral pathology and dental anatomy and former instructor in clinical orthodontics, Baltimore College of Dental Surgery, University of Maryland, has been added as collaborator. The book has been a standard and popular text from the time when it was first published and has been continually improved with each new issue. The eighth edition was published in 1955. The new ninth edition maintains the general format of the previous edition but brings it up to date with the newer developments in theory and practice.

The book is clearly written, logical in its arrangement and well illustrated. It is a comprehensive presentation of orthodontics in all its aspects. Its approach is a practical one with due emphasis and space devoted to technique and mechanotherapy. Various appliances, both fixed and removable, are illustrated and discussed, including the recent Begg light wire technique.

The discussion of the pin and tube appliance could be amplified and the illustrations tend to give an incomplete impression of its use and possibilities. This appliance is being used by some orthodontists with a lighter gauge base wire and in a form which gives it greater flexibility and gentler action. Illustrations of this form of the appliance should be included.

There is an interesting chapter on plastic surgery of the jaws by Dr. Edward A. Kitlowski which deals with malformations which are beyond orthodontic treatment by itself but require surgery in addition. It also deals with clefts of the lip and palate. The relationship of orthodontic treatment and surgery is well covered and the importance of co-operation between surgeon and orthodontist is stressed.

There is an excellent chapter on practice management which should be most helpful to the young orthodontist or dentist who includes orthodontics in his practice. It is commended particularly for the caution it advises on promising results and, especially, perfection in results. Its discussion of associations and partnerships is most valuable.

The book can be recommended for every undergraduate and graduate student of ortho-

dontics. It should be in the library of every orthodontist or dentist interested in malocclusion and its correction.

Gerald Franklin

Medical and Dental Aspects of Fluoridation

Prepared by: W. A. Cannell.

Published by: Dental Items of Interest Publ. Co. Inc. for H. K. Lewis and Co. Ltd., London, 1960.

Pages 125. Price \$2.95.

The purpose of this book is to offer a comprehensive picture of fluoride metabolism. Because important studies relating to excretion, storage and metabolism of fluorine have been omitted, this book is far from being comprehensive. However, various aspects of fluoride metabolism are well correlated, particularly in Chapters V and VI. The areas which require further investigations are well delineated.

Some of the most conspicuous omissions from the discussion of the medical aspects of fluoridation are the necropsy studies, and the large number of mortality statistics that have been published in the United States and Canada. Under the general heading of physiology of fluoride, no reference could be found of the work of Chen, et al, (*Proc. Soc. Exp. Biol. & Med.* 92:379, 1956) relating to renal fluoride clearances. The important work of Jackson (*Canad. J. of Biochem. and Physiology*, 33:93, 1955) regarding the stabilization of the fluorine concentration of the total ash of rats was also omitted, along with a large number of other pertinent studies.

The chapter dealing with calcification of skeletal and dental tissues is also inadequate. While reference is made to such highly speculative aspects of calcification as the role of chondroitin sulphate serving as a template for crystalization, no mention is made of Glimcher's work (*Reviews of Modern Physics*, 31:359, 1959) suggesting an opposite role for this compound, or of the classical investigations of Neuman, W. F. (*Chemical Dynam-*

ics of Bone Mineral, 1958). The formula for fluorapatite on pages 78 and 80 is incorrect.

The conclusions of the author are equivocal. While stating that "the need for public health action to implement mass control of dental caries has long been indicated and is becoming urgent" and that fluoride "does offer a well-proved means of partial protection and suitability as an anti-carries agent" and while noting that there "is no evidence of its adverse effects in health at any age" (p. 116), the conclusion of the author is that "dental caries as a disease does not warrant the general adoption of fluoridation as a matter of extreme urgency." In an area where extensive investigations have been under way for at least three decades, the words "extreme urgency" are hardly applicable. The reasons for the author's ultra-conservative conclusions appear to be: (1) Fluoridation is prodical and unprofitable in its scope and application. (2) There is a lack of scientific evidence of chronic fluoride action. (3) Evidence is against any disease being caused or aggravated by a deficiency of fluoride. (4) Fluoridation is a prophylactic agent and deals with causes not effects. (5) Also, the duration of the benefits to children is a matter of speculation. These conclusions are not reasonable when assessed in the light of scientific facts nor even of the author's own statements. Fluoridation costs approximately ten cents per capita per year, and the author himself observes that fluoridation "is cheap and practicable in its proposed use" (p. 106). The safety and effectiveness of fluoridation in human physiology, when ingested at the recommended concentration, has been established beyond any reasonable doubt under the widest variety of controlled conditions, as attested to by numerous, independent scientific groups. To consider fluoridation as inadequate on the grounds that it is solely prophylactic and does not offer a complete answer to the caries problem is incomprehensible. Finally, the author is wrong in implying that benefits from fluoridation are limited to children and that the duration of the benefits is a matter of speculation.

G. Nikiforuk

DENTAL PUBLICATIONS OF CANADA

The B.C.D.A. News Bulletin is published at 502 Birks Building, Vancouver, B.C., by the British Columbia Dental Association. The "Bulletin" appears five to six times a year. Dr. D. H. Munro is the editor.

THE LIBRARY

Additions

- AMERICAN COUNCIL ON EDUCATION, WASHINGTON, D.C. Dentistry in the United States; status needs, and recommendations. Summary report of the Commission on the Survey of Dentistry in the United States, 1960. 70p. \$1.
- BISSET, K. A.-DAVIS, G. H. G. The microbial flora of the mouth. London, Heywood and Co. Limited, 1960. 100p. illus. \$3.50.
- COHEN, R. A definitive study of your future in dentistry. New York, Richards Rosen Press, Inc., 1960. 153p. \$3.25.
- ELLIS, R. G. The classification and treatment of injuries to the teeth of children, 4th ed. 1960. Chicago, The Year Book Pubs. 250p illus. \$4.50.
- ESSEX-CATER, A. J. A synopsis of public health and social medicine. Bristol, John Wright & Sons Limited, 1960. 563p. \$9.35.
- THE FIRST DISTRICT DENTAL SOCIETY OF NEW YORK. 100 years in the service of humanity, 1860-1960. Better health through dental care. Centennial Journal. 43p. illus.
- SHOCK, N.W. ed. Aging . . . some social and biological aspects. Symposia presented at the Chicago Meeting of the American Association for the Advancement of Science, 1959. Publication No. 65, 1960. 427p. illus.
- TULLEY, W. J. - CAMPBELL, A. C. A manual of practical orthodontics. Bristol, John Wright & Sons, Limited, 1960. 220p. illus. \$7.15.
- U. S. DEPARTMENT OF THE AIR FORCE. Dental laboratory technicians' manual. Washington, Government Printing Office, 1959. 577p. illus.
- U. S. NAVAL DENTAL SCHOOL. Dental technician repair. Washington, Government Printing Office, 1958, 511p. illus.
- WADE, A. B. Basic periodontology. Bristol, John Wright & Sons Limited, 1960. 303p. illus. \$8.50.
- WINDLE, W. F. Textbook of histology. 3rd ed. Toronto, McGraw-Hill Book Co., Inc., 1960. 573p. illus. \$10.95.

IN MEMORIAM

Robert McPherson McIntosh — Dr. Robert McPherson McIntosh of Windsor, Ontario, died on December 28, 1960. He was 75.

Born in Bruce County, Ontario, Dr. McIntosh graduated from the Royal College of Dental Surgeons of Ontario in 1909. He prac-

tised in Toronto from 1910 until 1957 when he retired and moved to Windsor.

Surviving are his wife Elsie; two daughters, Mavis and Marjorie; one brother, Bruce; one sister, Ethel; and two grandchildren.

Charles Algeo Cooke — Dr. Charles Algeo Cooke of Sutton, Ontario died on December 30, 1960. He was 85.

Dr. Cooke graduated from the Royal College of Dental Surgeons in 1898 and set up practice in Sutton.

Surviving are his wife, Aleda; two daughters, Frances and Marjorie; and two sons, George and Bruce.

Ralph Dohner McNally—Dr. Ralph Dohner McNally of Toronto, Ontario, died on December 21, 1960. He was 58.

Dr. McNally was born at Hannon, Ontario and received his early education at Hamilton. He graduated from the Royal College of Dental Surgeons of Ontario in 1925 and practised in Toronto until 1928. In 1928 he moved to Ohio and remained there until 1945 when he returned to Toronto.

Surviving are his wife, Betty; one sister, Carrie; and three brothers, Harry, Edward and Huber.

John Hutchinson — Dr. John Hutchinson of London, Ontario died on April 6, 1960. He was 86.

Dr. Hutchinson was born at Walsingham Centre, Ontario and received his early education at Port Rowan and Tilsonburg. He graduated from the Royal College of Dental Surgeons of Ontario in 1902 and established his practice in London. In 1948 he was made an honorary member of the Royal College of Dental Surgeons of Ontario.

Dr. Hutchinson is survived by his wife, Ada Jane; and two daughters.

Benjamin Swartout — Dr. Benjamin Swartout of Saskatoon, Saskatchewan, died on December 8, 1960. He was 83.

Dr. Swartout was born in Minnesota and received his dental education at North Western University, Chicago, graduating in 1913. He practised in several states before coming to Canada. In the early 1900's he went to Saskatchewan in search of farm land. He resumed his dental practice in the Saskatoon area until 1916, when he moved to Saskatoon to set up practice in partnership with Dr. R. Toren. Dr. Swartout retired in 1954 but still remained active in golfing and lawn bowling.

Surviving are five children, Douglas, Maxine, Charlotte, Lois and Blanche. Mrs. Swartout predeceased her husband about ten years ago.

Russell George Schwalm — Dr. Russell George Schwalm of Mildmay, Ontario died on January 10, following a lengthy illness. He was 43.

Born in Mildmay, Dr. Schwalm received his early education there and also at Walkerton High School. He graduated from the Faculty of Dentistry, University of Toronto in 1943 after which he served as a Captain in the Canadian Dental Corps during World War II. A few years later he opened a dental practice in Harriston and remained there until the death of his father in 1951. He then moved to Mildmay to join the Schwalm Lumber Company Ltd.

Surviving are his wife, Norah; a son David; a daughter Jane; one brother, Edward; and one sister, Phyllis.

Marland R. Berst — Dr. Marland R. Berst of Wellesley, Ontario, died on December 28, 1960 after a short illness. He was 66.

Born in Plattsville, Ontario, in 1894, he received his early education there. Following his graduation from the Royal College of Dental Surgeons of Ontario in 1922 he set up practice in Wellesley, serving that community for the past 37 years.

At the time of his death he was chairman of the library board. He was a former trustee of Wellesley public school board.

Surviving are his wife, Clara; three daughters, Patricia, Geraldine and Jacqueline; a sister, Mrs. H. Einwechter; and five grandchildren.

Thomas Albert Robinson — Dr. Thomas Albert Robinson of Brampton, Ontario died on December 24, 1960. He was 64.

Born in Midland, Ontario, he received his early education in Brampton. He graduated from the Royal College of Dental Surgeons of Ontario in 1921 and established his practice in Brampton. During World War I he served as sergeant in the Canadian Army Dental Corps overseas from 1916 to 1918.

He was past chairman of the Brampton Dental Hygiene Committee and assisted in the yearly school survey. From 1928-1940 he was a member of the Brampton High School Board. From 1931-1932 he was vice-president of Brampton Curling Club; in 1933-1934, secretary-treasurer of the Brampton Bowling Club; from 1933-1934 president of the Brampton Badminton Club, and from 1934-1935, president of the Brampton Golf Club.

He is survived by his wife Miriam; one son, Robert; one sister, Roberta; and a brother, Carl.

John Archibald Gillies — Dr. John Archibald Gillies of London, Ontario, died on November 2, 1960 following a lengthy illness. He was 64.

Born in Toronto, he received his early education there and graduated from the Royal College of Dental Surgeons of Ontario in 1923. He practised in Mount Brydges from 1923 to 1927 when he moved to London, Ontario.

Always active in dental affairs, Dr. Gillies was a past chairman of the Dental Public Health Committee, and a past president of the London Dental Society. A well known traveller, he and his wife travelled around the world on an eight-month trip in 1937. Dr. Gillies was a keen student of eastern philosophy and psychology, and spent several months in India studying the way of life there.

Dr. Gillies is survived by his wife Janet.

Morgan Stanford Hawkins — Dr. Morgan Stanford Hawkins of Port Hope, Ontario, died on December 28, 1960. He was 84.

Born in Canton, Durham County, he received his early education at Port Hope. He graduated from the Royal College of Dental Surgeons of Ontario in 1904 and set up practice in Port Hope.

Dr. Hawkins was made an honorary member of the Royal College of Dental Surgeons of Ontario in 1954. He was president of Ontario and Durham Counties Dental Association in 1926. A member of the Rotary Club, he was made president in 1926. He was also chairman of the public school board from 1926 to 1929 and from 1938 to 1939.

Surviving are his wife Annie; a daughter, Ruth; and a sister, Jessie.

William James Fuller — Dr. William James Fuller of Mitchell, Ontario, died on January 28, 1961. He was 73.

Dr. Fuller received his early education in Mitchell and graduated from the Royal College of Dental Surgeons of Ontario in 1913. In 1913 he practised in Nelson, B.C., then moved to New Liskeard, Ontario where he practised from 1914 to 1950. From 1950 to 1954 he practised in Mitchell, retiring thereafter.

Dr. Fuller is survived by his wife, Isobel.

Harold G. Carson — Dr. Harold G. Carson of Victoria, B.C. died on January 14. He was 67.

Dr. Carson graduated from North Pacific College, University of Oregon. He registered in Saskatchewan in 1918 and practised in Saskatoon until he retired and moved to Victoria in 1946. During the First World War Dr. Carson served with the Army Dental Corps.

He is survived by his widow, a son and a daughter.

Carl Vivian Wallace — Dr. Carl Vivian Wallace of Havelock, Ontario died in January in Bermuda.

Dr. Wallace was born in Nova Scotia and graduated from the Royal College of Dental Surgeons of Ontario in 1909. He practised in Marmora, Ontario, from about 1940 until a few years ago; he was also well known in the Havelock district.

Surviving are his wife, Catherine; one daughter, Isobel, and one son, Harris; a brother, Earl; and a sister, Mrs. G. McIntyre.

THE CANADIAN DENTAL ASSOCIATION

60th Annual Meeting

Board of Governors' Meeting May 31 - June 3

Convention June 4 - June 7

REDUCED RAIL FARES

Special Convention rates for railway travel to Saskatoon. Certificates for reduced rail fares are now available from C.D.A. Headquarters.

The hub city of the Prairies, Saskatoon will be the site of the sixtieth annual meeting of the Canadian Dental Association. This city of bridges straddles both sides of the mighty Saskatchewan River. The meeting is being held jointly with the Western Canada Dental Society at the Bessborough Hotel.



Photo by Len Hilliard, Saskatoon

SASKATOON, SASKATCHEWAN

CONDENSED PROGRAM

CLINICIANS AND ESSAYISTS

Dr. G. F. McGee	University of California	Prosthodontics
Dr. A. Elfenbaum	Northwestern University	Oral Diagnosis
Dr. L. O. Bishop	College of Physicians and Surgeons, San Francisco	Oral Surgery
Dr. Wendell Wyllie	University of California	Grieve Memorial Lecture

TABLE CLINIC DEMONSTRATIONS

Dalhousie University	Orthodontic Techniques
McGill University	Endodontics
	Use of Plastics in Facial Reconstruction
Université de Montréal	High Speed, Rubber Dam, and Tissue Reaction accompanying the use of high speed turbines.
University of Toronto	Periodontics
	Orthodontics
University of Manitoba	Gold Foil Restoration
	Fixed and Removable Temporary Splints
	Silver Plating
	Details of the Surgical Flap in Tooth Removal
	Crown and Bridge Abutment Construction
	Recent Advances in Endodontics
	Denture Occlusion (Progressive Table Clinic)
University of Alberta	Prosthodontics
	Amalgam Restoration
	Radiology
Department of National Defence	Dental Officer's Role in Casualty Care During a National Emergency
The Kelvin Dental Group (Drs. A. H. Frankel, S. Katz and S. R. Katz)	Superiosteal Mandibular Splint
Dr. S. Norquay	Pin Retention in Bridgework
Dr. G. W. Street	Preventive Orthodontics
Dr. M. J. Lipkind	Endodontics
Dr. J. J. Schachter	Orthodontics
Dr. T. J. Cooke	Crown and Bridgework Problems
Dr. R. Morrison	Oral Surgery
Dr. P. Luxford	Oral Surgery
Dr. J. A. Ludwig	Tumours and Cysts of the Mandible and Maxilla
Dr. S. Borden	Periodontal Therapy
Dr. B. L. Kuzyk	Paedodontics

REGISTRATION FORM

ANNUAL MEETING Canadian Dental Association Western Canada Dental Society

Dr. Arthur Singer,
414 Canada Building,
Saskatoon, Saskatchewan

Saskatoon, Saskatchewan
June 4-7, 1961.

NAME

ADDRESS

CITY PROVINCE

WIFE'S NAME

Golf — Yes No

REGISTRATION FEE

Single \$50.00

Wife Free

Includes the President's Dinner and
all Official Functions.

HOUSING ACCOMMODATION APPLICATION

Bessborough Hotel	Single.....	Twin Beds.....	Double.....	\$7.50 - \$13.50
King George Hotel	Single.....	Twin Beds.....	Double.....	6.50 - 12.00
Senator Hotel	Single.....		Double.....	6.50 - 8.50
Parktown Motor Hotel	Single.....	Twin Beds.....		8.00 - 11.00

REQUESTS FOR ACCOMMODATION MUST BE ACCOMPANIED BY
REGISTRATION FEE

See Saskatoon in 1961 by attending the Combined Convention of the CANADIAN DENTAL ASSOCIATION and the WESTERN CANADA DENTAL SOCIETY.

Make plans for unexcelled fishing for Lake Trout, Walleye Pike, and Arctic Grayling in Northern Saskatchewan following the Convention. Play Golf on excellent courses. Bring your camera to photograph historical sites and scenic beauty. Visit the South Saskatchewan River Dam Development. FUN FOR THE WHOLE FAMILY.

For further Tourist Information, contact Dr. S. R. Gelmon, 519 Medical Arts Building, Saskatoon, Saskatchewan.

Advanced and early registration will be very much appreciated and will be most advantageous to the registrant.

ANNOUNCEMENTS

Conventions of the Canadian Dental Association

1961	Saskatoon, Saskatchewan	June 4th-7th
1962	Vancouver, British Columbia	June 3rd-6th
1963	Toronto, Ontario	May 19th-22nd
1964	Edmonton, Alberta	June 28th-July 1st
1965	Quebec City, Quebec	May 30th-June 2nd
1967	Toronto, Ontario	May
	(Centennial Celebration of Dentistry in Canada)	

FUTURE EVENTS

Date	Function	Location	Officer	Address
Mar. 23, 1961	Academy of Dentistry, Toronto, 3rd Stated Meeting	Faculty of Dentistry, University of Toronto	Mrs. N. H. Montgomery,	230 St. George St., Toronto 5, Ont.
April 14, 1961	Mowry Memorial Lecture, Mt. Royal Dental Society	Montreal General Hospital	Dr. C. G. Baer,	4700 Prince of Wales, Montreal 28, P.Q.
May 4-6, 1961	British Columbia Dental Association	Aquatic Club, Kelowna, B.C.	Dr. W. R. Upton,	217-925 W. Georgia St., Vancouver, B.C.
May 20, 1961	Canadian Soc. Dentistry for Children Ontario Chapter	King Edward Sheraton Hotel, Toronto, Ont.	Dr. D. L. Rife,	3014 Bathurst St., Toronto, Ont.
May 21, 1961	Canadian Academy of Periodontology	Royal York Hotel, Toronto	Dr. D. S. Moore,	705 Professional Arts Bldg., Hamilton, Ont.
May 21-24, 1961	Ontario Dental Association	Royal York Hotel, Toronto	Mrs. W. C. Durham,	230 St. George St., Toronto 5, Ont.
May 25-27, 1961	Dental Association of the Province of Quebec	New Sherbrooke Hotel, Sherbrooke, P.Q.	Dr. C. Tessier	260 Ball Street, Sherbrooke, P.Q.
June 1-4, 1961	Swiss Dental Society Jubilee Congress	Basle, Switzerland	Dr. H. Michel,	Eisengasse 8, Basle, Switzerland.
June 18-23, 1961	British Dental Association	Harrogate, England	Mr. J. Peacock,	13 Hill St., London W.1., England.
July 2-5, 1961	Atlantic Provinces Dental Convention	Charlottetown, P.E.I.	Dr. L. I. Duffy,	202 Queen Street, Charlottetown, P.E.I.
July 9-15, 1961	Fédération Dentaire Internationale	Helsinki, Finland	Dr. G. H. Leatherman,	35 Devonshire Place, London W.1., England.
Aug. 14-18, 1961	16th Australian Dental Congress	Sidney, Australia	Mr. D. Freeman,	T. & G. Building, Park St., Sidney, Australia.
Sept. 12-15, 1961	2nd Intl. Czechoslovak Stomatol. Congress	Marienbad, Czechoslovakia	Dr. F. Urban,	Karlovo nám. 32, Prague 2, Czechoslovakia.
Oct. 16-19, 1961	American Dental Association	Philadelphia, Pennsylvania	Dr. G. N. Casto, Jr.	222 East Superior St., Chicago 11, Illinois.
Dec. 27-31, 1961	Alpha Omega Fraternity	Queen Elizabeth Hotel, Montreal	Dr. F. Vosburg,	5292 Queen Mary Rd., Montreal, P.Q.

POSTGRADUATE AND REFRESHER COURSES (U.S.)

ALABAMA—May 6-7, 1961—Paedodontics for the General Practitioner
 ALABAMA—May 10-12, 1961—Root Canal Therapy followed by Apicoectomy
 ALABAMA—May 22-24, 1961—Surgical Anatomy of the Head and Neck.

Other information concerning dental meetings outside Canada is available at C.D.A. Headquarters upon request.

JOURNAL

Les applications topiques des fluorures

par PAUL SIMARD, D.D.S., D.H.D.P., Lévis, P.Q.

Il est maintenant prouvé par de très nombreuses enquêtes que l'application topique de fluorures sur les dents réduit la carie dentaire d'une façon très appréciable. Certaines enquêtes indiquent une diminution allant même jusqu'à 50% ⁽¹⁾. Pourquoi cependant n'avons-nous pas encore adopté, pour la plupart, ce moyen de prévention?

La réponse est assez simple . . . C'est que, d'une part, nous n'étions pas tellement convaincus, à venir jusqu'à ces derniers temps du moins, de l'efficacité de ce traitement, et que, d'autre part, jouaient les facteurs (a) manque de temps et (b) dans bien des cas, avouons-le, la crainte de l'augmentation éventuelle de la jeune clientèle.

Il faut dire que la méthode d'application de fluorure de sodium à 2% était très compliquée et requérait pour le même enfant plusieurs séances (4 appli-

cations à une semaine d'intervalle à 3, 7, 10 et 13 ans). Mais maintenant que le fluorure d'étain tend à remplacer le fluorure de sodium, le nombre des séances est considérablement diminué, puisqu'une application annuelle de fluorure d'étain à 8% est suffisante.

Pour nous persuader du bien-fondé de l'application d'une solution de fluorure, consultons les résultats des principales études.

Le tableau 1 ne laisse aucune équivoque sur la valeur préventive du fluorure de sodium appliqué sur des dents permanentes . . . Cette propriété des fluorures est aussi, sinon plus marquée chez les dents temporaires, comme en font foi les rapports de Cheyne⁽⁸⁾, Jordan⁽⁹⁾, Wittich⁽¹⁰⁾, Ast⁽¹¹⁾, Compton et autres⁽¹²⁾.

La valeur du fluorure d'étain (F_2Sn) — Est-il préférable au fluorure de sodium (FNa)?

TABLEAU NO 1

Date rapport	Auteurs	Nombre patients	Age	Solution	Nombre applic.	Examen après	% Réduction
1942	Bibby, B. G. (2)	90	10-12	.1% FNa	3	1 an	45.8
		78	10-12	.1% FNa	6	2 ans	33.3
		39	10-12	.1% FNa	6	5 ans	36.0
1943 & 1946	Knutson, J. W.	289	7-15	2% FNa	8-15	1 an	39.8
		270	7-15	2% FNa	8-15	2 ans	41.4
	Armstrong, W. D. (3) (4)	242	7-15	2% FNa	8-15	3 ans	36.7
1946	Jordan, W. A.	241	6-12	2% FNa	1	1 an	4.9
	Wood, O. B.	575	6-12	2% FNa	2	1 an	10.0
	Allison, J. A.	161	6-12	2% FNa	3	1 an	21.0
	Irwin, V. D. (5)						
1947	Knutson, J. W.	472	7-15	2% FNa	2	2 ans	9.3
	Armstrong, W. D.	504	7-15	2% FNa	4	2 ans	20.1
	Feldman, F. M. (6)	482	7-15	2% FNa	6	2 ans	21.0
1947	Galagan, D. J.	301	7-15	2% FNa	2	1 an	21.7
	Knutson, J. W. (7)	247	7-15	2% FNa	4	1 an	40.7
		259	7-15	2% FNa	6	1 an	41.0
		272	7-15	.06% F2Pb	2	1 an	5.9
		214	7-15	.06% F2Pb	4	1 an	1.6
		262	7-15	.06% F2Pb	6	1 an	0.8

Remarque: Application sur dents permanentes

Le tableau 2 démontre clairement l'action du fluorure d'étain.

L'enquête de Gish et autres révèle que les indices DMFT (decayed, missed, filled, teeth) et DMFS (decayed, missed, filled, surfaces) sont respectivement 40 et 41% moins élevés chez les enfants qui ont bénéficié du traitement durant 3 ans.

Les 3 études comparatives résumées au tableau 3 donnent des résultats concordants qui militent en faveur du fluorure d'étain.

DÉSAVANTAGES ET AVANTAGES DU FLUORURE D'ÉTAİN

Désavantages

- 1—mauvais goût.
- 2—conservation difficile.
- 3—taches sur les parties hypoplasiques des dents et aux contours des silicates défectueux.

Avantages

- 1—plus grande réduction de la carie.
- 2—une seule application par année. (au lieu de 4 à 3, 7, 10, 13 ans).

Pour être efficace, le F_2Sn doit être fraîchement préparé. Cette caractéristique ne présente pas trop d'inconvénients toutefois, puisque les maisons dentaires offrent le F_2Sn en capsules contenant la quantité nécessaire à un traitement.

Quant aux taches sur l'émail, elles ne se produisent que s'il y a carie ou hypoplasie. Seuls les silicates poreux et présentant des contours défectueux deviennent pigmentés.

TECHNIQUE D'APPLICATION DU FLUORURE D'ÉTAİN⁽¹⁷⁾

Tous les auteurs s'accordent à dire que la technique doit être suivie fidèlement si l'on veut obtenir les meilleurs résultats... Elle peut se résumer ainsi:

TABLEAU NO 2. Études non-comparatives

Date rapport	Auteurs	Nombre patients	Age	Solut.	Nombre applic.	Examen après	% Réduction
1959	Compton F.H. Burgess R.C. Mondrow T.G. Grainger R.M. Nikiforuk G. (12)	185	2-4	8 % F ₂ Sn	1	1 an	28 %
1959	Gish C.W. Muhler J.C. Howell C.L. (13)	442	6-16	4 % F ₂ KSn	1 annuelle	3 ans	40 % (DMFT) 41 % (DMFS)

- 1—nettoyage des dents avec pierre ponce, incluant le polissage des surfaces interproximales avec des bandelettes de papier sablé.
- 2—rincage vigoureux de la bouche.
- 3—isolation d'un quadrant ou de la moitié de la bouche à la fois avec des rouleaux de coton no 2.
- 4—assèchement à l'air comprimé.
- 5—application du F₂Sn à l'aide de boulettes de coton ou de bourdonnets. Renouveler les applications durant 4 minutes afin de garder les dents continuellement humectées.
- 6—avis est donné au patient de ne pas manger ou se rincer la bouche avant 30 minutes, après le traitement.

MODE D'ACTION DES FLUORURES EN APPLICATION TOPIQUE

Même s'il y a encore beaucoup à apprendre au sujet du mode d'action des fluorures, il est cependant acquis que la pénétration dans la masse de l'émail est insignifiante. A la suite d'application topique, il se produit une réaction de surface, où seuls les prismes extérieurs de l'émail acceptent une faible quantité d'ions-fluorures, suffisante cependant pour rendre l'émail moins perméable à l'action de l'acide. Des recherches faites à l'aide de fluor radioactif démontrent qu'il se

dépense 5 fois plus de fluorures dans les taches blanches et les endroits cariés des dents que dans l'émail adjacent. Ce qui porte Brudevold⁽¹⁸⁾ à croire que les applications topiques occasionneraient un retard ou un arrêt de la carie plutôt qu'un renforcement de l'émail. Cette hypothèse est toutefois infirmée par le fait que le pourcentage de réduction de la carie subsiste encore quelques années après la suspension de cette mesure prophylactique, alors que, si l'émail n'avait pas été rendu plus résistant par le traitement, il se serait produit autant de taches hypoplasiques et de caries nouvelles que chez le témoin.

Il paraîtrait plus logique de penser que l'application topique renforce d'une façon générale l'émail, mais que son action préventive est encore plus marquée aux endroits susceptibles de carie (taches blanches ou noires).

A QUEL ÂGE DOIT-ON FAIRE L'APPLICATION?

Il faut commencer le traitement aussitôt que possible, soit à l'âge de 3 ans, puisque les fluorures agissent aussi sur les dents temporaires. Il semble à propos de continuer au moins jusqu'à l'éruption des 2^{èmes} molaires permanentes (12-13 ans).

TABLEAU NO 3. Études comparatives

Date rapport	Auteurs	Age	Solut.	Nombre applic.	Examen après	Résultats
1955	Howell J.C.	6-15	2 % FNa	4	1 an	23.6 % réduct.
	Nebergall W. H.	6-15	2 % F ₂ Sn	4	1 an	83.0 % réduct.
	Day H.G. (14)					
1958	Gish C.W.	6-17	2 % FNa	4 (aux 3 ans)		
	Muhler J.C.	6-17	8 % F ₂ Sn	1 par an	1 an F ₂ Sn	21 % plus efficace que FNa
	Howell C.L. (15)				2 ans F ₂ Sn 3 ans F ₂ Sn	32 % 35 % idem
1958	Nevitt G.A.	9-14	2 % FNa	4	1 1/3 an	35.9 % réduction
	Witter D.H.	9-14	2 % F ₂ Sn	4	1 1/3 an	44.4 % réduction
	Bowman W.D. (16)					

On admet généralement que les fluorures absorbés par voie digestive sont utiles au moment de la formation des dents, soit durant les 10 ou 12 premières années de la vie. Cependant, le fait qu'il n'intervient aucun facteur nutritif dans l'application locale n'exclut pas la possibilité d'une action positive sur les dents complètement formées.

Malheureusement, les enquêtes conduites auprès des adolescents et des adultes sont en nombre restreint. A ce chapitre l'étude d'Arnold et autres⁽¹⁹⁾ ainsi que celle de Rickles & Becks⁽²⁰⁾, qui se sont servis d'une solution acide, n'ont donné aucun résultat. On a reconnu, par la suite toutefois, l'inefficacité des solutions non basiques. L'on peut donc écarter ces 2 études. Sur 6 autres enquêtes, 2 en arrivent à un résultat négatif^{(21) (22)}, alors que les 4 autres signalent une réduction variant de 24 à 50%^{(23) (24) (25) (26)}.

Pelton et Wisan sont d'avis que les traitements n'ont plus d'effet à partir d'un certain âge; ce qui d'ailleurs pourrait varier suivant les individus⁽²⁷⁾. Il faudra attendre le résultat de nouvelles enquêtes avant de se faire une opinion définitive sur l'efficacité des fluorures en application chez les adolescents et les adultes.

LA VALEUR DES APPLICATIONS TOPIQUES AUX ENDROITS OÙ L'EAU EST FLUORÉE

Comme la fluoration se répand graduellement (au Manitoba, 53% de la population boit de l'eau fluorée)⁽²⁸⁾, il est logique de se demander si l'application topique doit se faire dans les régions où l'eau apporte une quantité optima de fluorure.

L'enquête de Downs et Pelton⁽²⁹⁾, qui ont traité avec du FNa à 2% les dents d'enfants résidant à des endroits où l'eau contenait 0.4 et 1.0 ppm de fluorure, n'a pas révélé de réduction de la carie.

Depuis, Galagan⁽³⁰⁾, après une série d'applications de FNa à 2% à 350 enfants, âgés de 7 à 16 ans, en est arrivé à une diminution de 9% de l'incidence de la carie.

L'étude récente de Muhler est la plus poussée dans ce domaine et apporte des éclaircissements de première valeur: "De 2 groupes d'enfants résidant dans une ville où l'on ajoute une quantité optima de fluor, le premier a reçu, à des intervalles de 6 mois, des applications topiques de F₂Sn à 8%, alors qu'on se servait d'eau distillée pour l'autre (groupe témoin), et ce, durant une période de 30 mois. Les résultats après 6, 12, 18, 24, 30 mois

indiquent une réduction appréciable de l'incidence de la carie chez les enfants à qui l'on a fait une application topique de $F_2Sn^{(31)}$."

CONCLUSIONS

A la lumière des nombreuses enquêtes menées sur les applications topiques de fluorures, il n'est pas logique d'écarter ce mode de prévention de la carie dentaire qui apporte des résultats de l'ordre de 40%. Ceci est d'autant plus vrai que le fluorure d'étain est plus efficace que le fluorure de sodium et exige moins de temps de la part de l'opérateur.

Il semble bien cependant que la généralisation de cette mesure préventive ne deviendra un fait accompli qu'au moment où les dentistes pourront compter sur l'aide des hygiénistes dentaires.

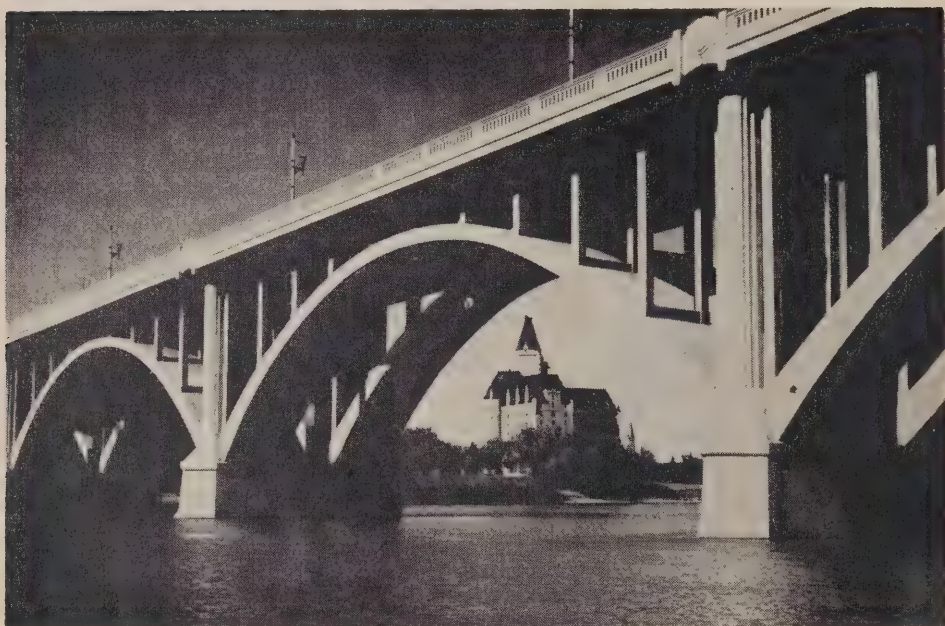
SUMMARY

The author inquires why so few dentists use the preventive method for decay that consists in the application of fluorides to deciduous teeth; he discusses the efficacy of this method and cites statistics regarding the use of stannous fluorides. He compares the value of sodium fluoride as compared to the stannous fluoride. The full technique for the use of stannous fluorides is discussed and comments are made for regions where the communal water is fluoridated.

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L'hydrocortisone, précieux adjuvant au traitement d'endodontie

par ISRAËL I. FEINCHNEIDER, D.D.S., Montréal, P.Q.

Le rôle physiologique de l'inflammation est la défense de l'organisme en face des traumatismes physiques et bactériologiques.

Localement, l'inflammation réagit en deux phases, la première par la destruction et l'expulsion de l'irritant et la deuxième par la réparation tissulaire. On peut diviser en deux sortes les stimuli de l'inflammation: vivants et non vivants.

Les vivants comprennent tous les types de bactéries et virus; les non vivants sont les traumatismes, les corps étrangers, les changements thermiques et la pression.

La fonction essentielle de la réaction inflammatoire est d'amener les cellules de défense, à partir des cellules mésodermiques libres des vaisseaux, vers le tissu irrité. Ce processus est connu sous le nom de phénomène vasculaire de l'inflammation. Cette phase de l'inflammation vue sous le microscope commence par une dilatation des vaisseaux près de l'irritant; ce phénomène se remarque surtout dans les artères, moins sur les veines et peu sur les capillaires. Il produit une accélération du flot sanguin, suivi d'une stagnation (hypérémie active). Cette forme d'hypérémie persiste en diminuant le courant sanguin jusqu'à ce que la présence des corpuscules individuels soit visible (Cohnheim, Boyd, Menkin).

Le phénomène de l'inflammation vasculaire se résume à :

- 1) une dilatation vasculaire causée par une paralysie des fibres musculaires des petites artères et veines;
- 2) la sortie du plasma sanguin favorisée par la grande perméabilité des parois capillaires lésées par les toxines;

3) l'augmentation de la pression osmotique: résultat de l'effondrement des protéines colloïdales en particules cristalloïdes;

4) une migration des leucocytes dans le but d'éliminer l'irritant.

L'exudat présent dans l'inflammation se compose de différents types de leucocytes venant des vaisseaux, de fibrine formée du plasma sanguin (exudat des vaisseaux) et des cellules libres des tissus qui environnent la région irritée. Ces phénomènes, par ailleurs, étudiés dans le tissu pulpaire semblent ne pas jouer leur rôle physiologique normal vers la guérison.

La pulpe dentaire, à cause de son enclassement dans une cavité aux parois rigides, réagit mal aux diverses phases de l'inflammation.

Composée d'un tissu conjonctif richement vascularisé, elle supporte mal la dilatation de ses capillaires dans la chambre pulpaire et dans les canaux; elle détermine, dans l'inflammation, une pression considérable sur ces fibrilles nerveuses (douleur) et elle ne tarde pas à dégénérer.⁽⁶⁾

Le dentiste, s'il pouvait contrôler le degré d'inflammation de la pulpe, pourrait prévenir la putréfaction des cellules qui la composent et garder vivantes, du moins dans la région radiculaire, des dents qui autrefois étaient dévitalisées dans leur entièreté: et prévenir, par ricochet, les conséquences de ces dévitalisations (deshydratation, friabilité, infection secondaire).

La carence de moyens thérapeutiques adéquats et l'absence de contrôle positif



DESSIN NO 1 — Cavité, classe 5. Pulpe exposée après ablation de carie avec curette. Traitement sous la digue: coiffage pulpaire avec hydrocortisone et antibiotique recouvert de $\text{Ca}(\text{OH})_2$; obturation temporaire avec couche d'eugénate et une couche d'oxyphosphate durant observation.

du succès de l'intervention ont été jusqu'ici des handicaps pour la réussite des pulpotomies.

L'hormone corticale, selon des travaux effectués au cours des dernières années, aurait une fonction considérable à remplir dans les phénomènes inflammatoires. Déjà, en 1954, B. L. Wolfshon⁽²⁾ faisait ses premiers rapports sur l'action de l'hydrocortisone dans le traitement pulpaire qu'il expérimentait dans ses laboratoires. B. L. Wolfshon reconnut son efficacité anti-inflammatoire, mais aussi sa passivité en face des bactéries.

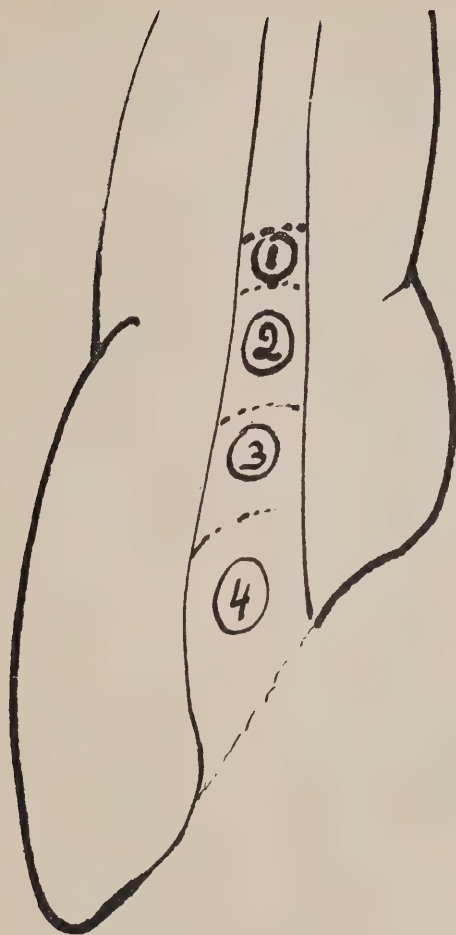
En 1956, M. H. Blitzen⁽³⁾ améliorait la technique de B. L. Wolfshon avec l'addition d'antibiotiques à l'hydrocortisone.

En 1958, Arthur A. Kiryati⁽⁴⁾ présentait les résultats d'une expérience sur pulpes lacérées de molaire de rat et traitées à l'hydrocortisone additionnée d'antibiotiques.

Les résultats obtenus avec l'hydrocortisone mêlé à des antibiotiques et à de l'hydroxide de calcium étaient des plus encourageants: environ 83% de guérison (soit 50% de guérison totale, 33% de guérison partielle, après deux mois d'intervalle).

Il existe sur le marché pharmaceutique des substances propres à contrôler l'inflammation de certaines régions ou de certains organes.

Car certaines disciplines thérapeutiques, comme la chirurgie dentaire, ont intérêt à minimiser, en certaines circonstances, les effets de l'inflammation. Ainsi les ophtalmologistes et les oto-rhinolaryngologistes utilisent une médication stéroïde qui a presque révolutionné les méthodes classiques de traitement. Nous avons trouvé dans cet arsenal de médication stéroïde une substance, qui, à cause de sa consistance et sa facilité de manipulation, peut s'utiliser avec profit en endodontie.



DESSIN NO 2 — Cavité, classe 3. Pulpite chronique. Traitement sous la digue: pulpotomie coronaire, après contrôle d'hémorragie. Application de: 1) hydrocortisone avec antibiotiques; 2) $\text{Ca}(\text{OH})_2$; 3) oxyde de zinc et eugenol; 4) ciment d'oxyphosphate durant observation.

Cette substance est le Neo-Cortef, de Upjohn, composé d'hydrocortisone à 1½ % avec Néomycine et Bacitracine en suspension hydrosoluble.

Les cas de pulpes vivantes traitées sont tapissés de $\text{Ca}(\text{OH})_2$ et scellés avec de l'eugénate et de l'oxyphosphate.

L'application de l'hydrocortisone et d'antibiotiques à large spectre, recouverte de $\text{Ca}(\text{OH})_2$ et scellés à l'oxyde de zinc-eugénol, forme un pansement temporaire idéal.

Les effets de chaque ingrédient sont les suivants :

- 1) L'hydrocortisone réduit l'inflammation et de ce fait supprime la *douleur*.
- 2) Les antibiotiques à large spectre contrôlent les bactéries et redonnent à la pulpe sa physiologie normale.
- 3) Le $\text{Ca}(\text{OH})_2$ par son pH basique garde le milieu défavorable aux invasions ultérieures de bactéries acidophiles de la bouche tout en activant la formation d'un pont de dentine secondaire.



DESSIN NO 3—Cavité classe 2. Dent morte par 1) obturation métallique sans isolant; 2) avec pulpe gangrenée (douloureux à la percussion).

Traitement: ouverture de la chambre pulpaire, extirpation partielle des résidus pulpaire; lavage des canaux radiculaires avec peroxyde d'hydrogène (3%) et Zonite; assèchement des canaux; insertion d'hydrocortisone avec antibiotique au Lentulo monté sur tour électrique; fermeture de la dent avec eugénate pour 48 hrs. Seconde séance: traitement conventionnel de la dent sans douleur.

4) La couche d'eugénate maintient le milieu stérile.

Le tout scellé hermétiquement avec un ciment d'oxyphosphate permet d'observer la dent durant un temps déterminé pour s'assurer de l'état normal (environ 4 semaines).

TECHNIQUE SUGGÉRÉE POUR PULPE VIVANTE EXPOSÉE

L'examen d'une goutte de sang prélevée et étendue sur une plaque de verre permet de constater au microscope si les éléments, globules rouges et leucocytes, sont normaux et en nombre relatif.

W. Proder⁽⁵⁾ a établi à ce sujet une règle qui permet d'opter en faveur du traitement conservateur ou non conservateur d'après la goutte de sang colorée au bleu de méthylène examinée sur une plaque de verre. Ses conclusions sont les suivantes :

1) La présence de lymphocytes et de monocytes signifie pulpite toxique plus qu'infectieuse.

Propose dans ces cas une amputation vitale.

2) Une augmentation en nombre de leucocytes indique la formation d'abcès intrapulpaire.

Propose l'exérèse totale avec stérilisation du canal.

3) La présence de polynucléaires indique un risque d'échec à tout procédé de conservation.

Cet examen microscopique de la goutte de sang s'apparente pour les pulpotomies aux cultures bactériologiques utilisées pour les pulpectomies dans les gangrènes pulpaire.

Notre arsenal thérapeutique se complète aujourd'hui par l'utilisation des stéroïdes qui trouvent leur place dans l'ensemble des traitements d'endodontie. Des recherches cliniques nous permettent de présenter un premier rapport de deux groupes de dents traitées avec les stéroïdes. Le premier groupe sous la forme sus-mentionnée pour la conservation de la pulpe et un deuxième groupe de dents avec gangrène pulpaire à l'état chronique.

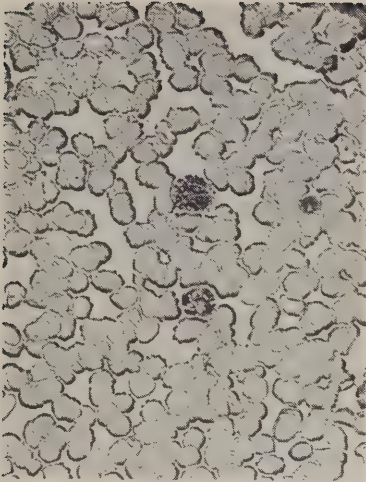


FIGURE 1

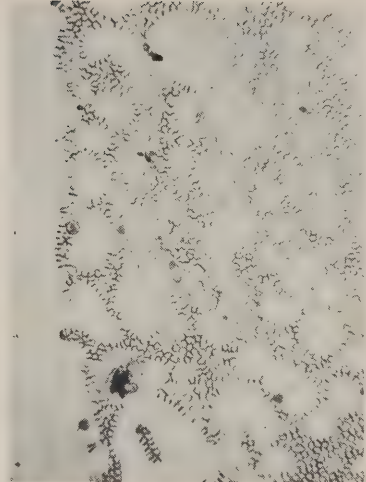


FIGURE 3

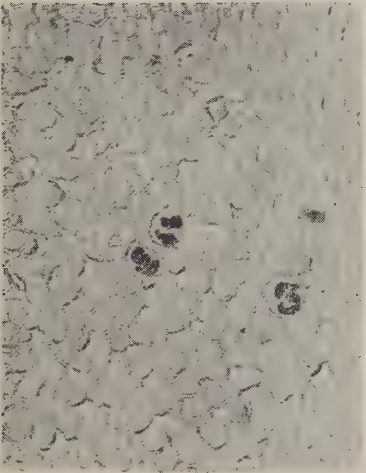


FIGURE 2



FIGURE 4

Frottis sanguins prélevés de pulpe exposée
FIGURES 1, 2—Fort grossissement (40)—Leucocytes polymorphonucléaires, sans phénomène pathologique particulier.

FIGURES 3, 4—Grossissement (10)—Frottis montrant les caractères normaux du sang pulpaire. Prédominance de globules rouges; débris dentinaires.

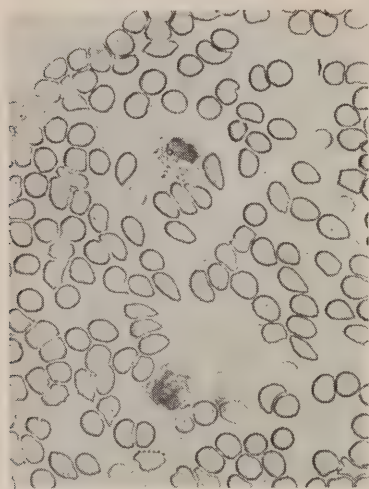


FIGURE 5—Grossissement (10)—Leucocytes polymorphonucléaires avec phénomène de phagocytose et dégénérescence; le protoplasme commence à se désagréger.

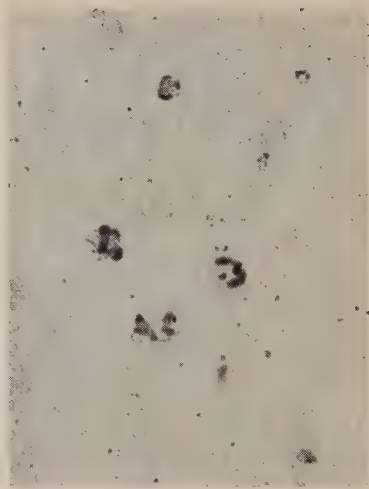


FIGURE 6—Grossissement (40) — Leucocytes polymorphonucléaires; phénomène de phagocytose; présence de micro-organismes.

RÉSULTATS OBSERVÉS DEPUIS SIX MOIS :

Groupe 1—20 cas de pulpes exposées (dents cariées) après traitement conservateur de la pulpe avec l'hydrocortisone additionnée d'antibiotiques et de $\text{Ca}(\text{OH})_2$: 95% de succès.

Après 4 semaines, une seule dent sur 20 ne répondait pas au vitalomètre.

Groupe 2 — 39 cas traités avec l'hydrocortisone plus antibiotiques dans le but de contrôler la suppuration et la gangrène des cas chroniques : 90% ont toléré la médication stéroïde sous scellement d'eugénate, sans aucune réaction post-opératoire et, 48 heures plus tard, la dent était sous contrôle et un traitement conventionnel pouvait être entrepris.

Les dégénérescences pulpaire par causes traumatiques avec ou sans granulôme sont avantageusement susceptibles à ce traitement. Ce traitement est contre-indiqué dans tous les cas aigus avec cellulite, où l'inflammation est extra-radicaire et représente un processus nécessaire à la guérison des tissus périodontaires.

CONCLUSIONS

Nos procédés conventionnels de traitement de canaux sont très avancés; ils permettent de conserver les dents en fonction physiologique normale durant de nombreuses années; néanmoins ces traitements dévitalisent les dents et les exposent à toutes sortes de complications.

Les chances de réussite dans le traitement de pulpectomie sont loins d'être certaines et exigent une dextérité et une expérience particulières pour éviter les faux canaux et les brisures d'instruments; certaines régions de la racine peuvent difficilement être atteintes (calcification); il faut parfois avoir recours à la chirurgie (apectomie), mais, dans certains cas, la chirurgie est impuissante (région du sinus et trou mentionnier).

Les risques de la pulpectomie sont nombreux. Pourquoi dès lors ne pas recourir à la pulpotomie pour conserver la dent vivante?

RÉSUMÉ

L'usage en endodontie de médication

thérapeutique à base d'hydrocortisone est précieux.

La pulpe conserve ainsi son intégrité; la circulation du sang se poursuit dans sa partie radiculaire.

L'inflammation, qui est un procédé physiologique de défense naturelle, ne peut malheureusement jouer un rôle favorable dans une chambre et des canaux radiculaires à cause de leurs parois rigides. L'encloisonnement de la pulpe richement vascularisée ne lui permet pas de s'hypertrophier sans causer de fortes douleurs par compression de ses fibrilles nerveuses; la pulpe ne tarde pas à dégénérer. Les stéroïdes peuvent contrôler l'inflammation et conserver vivantes les pulpes dentaires. Les antibiotiques peuvent contrôler les bactéries.

Le dentiste a le pouvoir de diriger les effets d'une défense naturelle qui ne peut s'exercer seule sans causer des effets nocifs dans le tissu pulpaire.

Il peut supprimer la douleur intense des congestions pulpaires, prévenir des gangrènes chroniques en mettant en œuvre une médication logique qui conserve vivantes les dents, autrefois vouées à la dévitalisation et souvent à l'extraction par manque de moyens thérapeutiques appropriés.

SUMMARY

Inflammation is a natural reaction to irritation (physical or bacterial) and no healing is possible without its influence.

But inflammation in the dental pulp chamber and canals, on account of the morphology of the pulp that is surrounded by rigid walls, is often deterrent to healing. As a matter of fact, inflammation can be held responsible for the loss of vitality of the pulp tissue.

The pulp tissue could heal up, after being traumatized, if the amount of inflammation could be somewhat reduced. The author reports clinical research where steroid medication associated with antibiotherapy (Neo-Cortef) has been instituted on the pulp tissue and where the results have been remarkably encouraging.

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5757 Decelles.

Nouvelles de l'Association

Nouvelles figures au Conseil des Gouverneurs

Trois provinces ont choisi de nouveaux représentants au Conseil des Gouverneurs. Le docteur J. F. Edgecombe, de Saint-Jean, succède au docteur W. B. O'Brien comme représentant de la Société dentaire de Nouveau-Brunswick. Le docteur O'Brien a complété son terme de deux ans au Conseil.

Le Collège des Chirurgiens-Dentistes de Saskatchewan, selon la constitution, a droit à un autre représentant, puisque son délégué, le docteur J. P. Whyte, agit, cette année, comme président de l'A.D.C. Le docteur A. D. Leak, de Moose Jaw, a été choisi comme délégué. Le docteur Whyte a représenté cette province durant dix ans avant d'être élu président.

Le docteur A. L. MacIsaac a été nommé délégué de l'Île-du-Prince-Edouard au Conseil des Gouverneurs. Son prédécesseur, le docteur J. D. Reddin, de Mount Stewart, a siégé durant deux ans.

Les nouveaux délégués occuperont officiellement leurs postes pour la première fois à Saskatoon, en juin prochain, quelques jours avant le Congrès national.

Décès du docteur Pallen, ancien président

Le docteur Robert L. Pallen, de Vancouver, est décédé le 30 décembre à l'âge de 75 ans. Il fut président de l'Association dentaire canadienne de 1936 à 1938 et il fut nommé membre honoraire en 1953.

Né à Dalhousie, Nouveau-Brunswick, le docteur Pallen se rendit tout jeune dans l'ouest et il reçut, en 1916, son diplôme de dentiste du North Pacific Dental College de l'Université d'Oregon. Il exerça à Vancouver et, durant 33 ans, il fut le directeur des services d'hygiène dentaire des écoles de Vancouver.

Le docteur Pallen fut membre du Conseil du Collège des Chirurgiens-Dentistes de la Colombie britannique durant 25 ans. Il en devint le registraire en 1948 et il prit sa retraite en 1953. Il fut aussi de nombreuses années trésorier de l'Association dentaire de la Colombie britannique. Il était "fellow" du Collège Américain des Dentistes.

La Cour Suprême rejette l'appel d'un technicien

La Cour Suprême du Canada a rejeté l'appel d'un jugement rendu par la Division d'Appel de la Cour Suprême d'Alberta, qui avait trouvé coupable un dénommé S. G. Vail pour avoir, en contravention avec la loi de l'Association dentaire de cette province,

exercé la dentisterie "dans un but de gain".

Vail, un technicien dentaire à Drumheller, a confectionné et ajusté des dentiers pour un certain M. Hill. Vail prit des empreintes de M. Hill, fit des plaques-bases pour enregistrer les relations des deux maxillaires, monta les dents, fit un essayage et finalement inséra les dentiers finis dans la bouche de M. Hill. Hill paya Vail \$90.00 pour ses services.

Vail prétendait qu'il fut payé seulement pour la confection des prothèses et non pour avoir exécuté des actions mentionnées dans la loi, comme constituant un exercice de la dentisterie, si elles sont faites pour des "honoraires, de l'argent ou une rémunération". La Division d'Appel d'Alberta avait statué que le comportement de l'inculpé constituait un exercice de la dentisterie, telle que définie par la loi.

La Cour Suprême du Canada fut du même avis et ajouta que le travail de prothèse avait été fait, dans un autre sens, "dans un but de gain". La Cour déclara que le terme "dans un but de gain" comprend tout genre de compensation ou de récompense, non seulement de l'argent. La Cour prétendit que, même si on avait réussi à prouver que Vail n'avait pas perçu d'argent pour le travail, qu'il aurait exécuté pour un dentiste, il fut récompensé par la commande intéressante qu'il a reçue en tant que technicien dentaire.

Certification nationale des spécialistes dentaires

Le Comité des Spécialistes et de la Spécialisation de l'A.D.C., à cause du grand nombre de jeunes diplômés qui désirent se perfectionner dans une spécialité et à cause des divergences qui existent d'une province à l'autre sur la question des qualifications exigées pour exercer une spécialité, a commencé à songer à l'établissement d'un organisme national dont la fonction serait de certifier les spécialistes de la profession dentaire. Les buts de cet organisme seraient de suggérer des normes identiques pour la formation et pour les qualifications exigées par les diverses spécialités et d'établir des règlements pour les spécialités et reconnaître les spécialistes dûment qualifiés. Le comité songe à recourir, en définitive, à une législation fédérale pour créer un Collège Royal des Dentistes, dont les membres seraient désignés comme "fellows" et obtiendraient ce titre du Collège Royal des Dentistes, F.C.R.D.—(C.). Les questions à régler sont les rapports qui existeraient entre ce Collège Royal et le Bureau national d'examen dentaire, l'Association dentaire canadienne, les Collèges provinciaux et les

organismes actuels des spécialistes canadiens.

Le Comité est en faveur d'un accord qui permettrait aux organismes de spécialistes de collaborer à la création de ce Collège et de fixer les exigences pour devenir membre. De plus, le comité recommanderait que les organismes de spécialistes soient représentés au bureau de direction du Collège et qu'ils nomment des examinateurs pour les spécialités qui les regardent.

Ce Collège Royal, dans l'esprit du comité, ne nuirait en rien aux Collèges provinciaux quand ils octroient des certificats de spécialistes. Le Collège Royal établirait les conditions pour obtenir un titre de "fellow" à un niveau qui conviendrait à toutes les provinces. Les Collèges des provinces conserveraient le privilège de décerner des certificats de spécialistes à des dentistes qui ne seraient pas "fellows" du Collège Royal. Il espère toutefois que les "fellows" du Collège Royal seraient reconnus sans difficulté, comme spécialistes dans toutes les provinces.

Une nouvelle publication

Le numéro 1 de la "RCDS Newsletter" a été posté à tous les membres du Collège Royal des Chirurgiens-Dentistes de l'Ontario. Ainsi l'Ontario ajoute son nom à la liste des provinces qui font parvenir des bulletins de nouvelles à leurs membres. Ces bulletins de nouvelles, à cause de leur format commode et de leur facilité à se lire, constituent un excellent médium de communication entre les organismes dentaires et leurs membres.

Trois Canadiens acceptés au Collège Américain des Dentistes

Le Collège Américain des Dentistes a honoré trois dentistes Canadiens en les nommant membres au cours de sa réunion tenue à Los Angeles. Ces nouveaux membres sont Harold W. Hart, de Winnipeg, James D. Purves et Charles H. M. Williams, de Toronto.

Politique de la Fédération dentaire internationale au sujet des techniciens dentaires

La Fédération a étudié le problème des techniciens dentaires dans le monde entier, durant l'année 1959-60, et, à ce sujet, elle a adopté la résolution suivante au Congrès de Dublin:

"Les techniciens dentaires sont des assistants précieux pour la profession dentaire dans sa mission de prodiguer au public des services de santé dentaire.

"Il est évident que les intérêts du public sont mieux servis quand les liens qui unissent les dentistes qualifiés et les techniciens dentaires sont étroits.

"La Fédération dentaire internationale, de façon à améliorer les services que les dentistes rendent à la population, préconise les mesures suivantes:

- 1) L'organisation de cours officiels pour former des techniciens et la collaboration de la profession à ces cours.
- 2) L'appui par la profession dentaire de projets de loi en faveur des techniciens dans les pays où la chose est souhaitable à condition que ces projets de loi soient conçus de façon à sauvegarder la santé du public, en reconnaissant que seule la profession dentaire, grâce à sa formation scientifique, son expérience et son instruction, peut prodiguer des services de prothèse directement à la population.
- 3) En général, l'appui et la mise en acte de mesures destinées à améliorer la formation et le rendement pécuniaire des techniciens et des apprentis.

"La Fédération dentaire internationale, dans l'intérêt de la santé et du bien-être du public, est opposée à toutes les tentatives légales ou autres destinées à permettre aux techniciens l'exercice de la dentisterie directement pour le public. La Fédération dentaire internationale reconnaît officiellement l'apport des techniciens dentaires à l'amélioration des services que la profession dentaire prodigue au public et supportera activement toutes les initiatives qui seront prises pour améliorer le sort des techniciens en conformité avec l'esprit de cette politique."

Projet de la Fédération dentaire internationale

—Un dictionnaire des termes dentaires sera préparé en cinq langues.

—On écrira l'histoire de la F.D.I.

—La formation des auxiliaires et l'utilisation intelligente de leur assistance fera l'objet de discussions importantes au cours de la prochaine réunion.

—On a formé une commission spéciale qui étudiera la question de la santé des dentistes.

La Société dentaire de Victoria ouvre une clinique pour des traitements gratuits

Le docteur R.-L. Horne, président de la Société dentaire de Victoria et du District, vient d'annoncer que sa société ouvre une clinique pour fournir gratuitement des dentiers aux personnes âgées qui ne sont pas éligibles à l'assistance sociale. Cette clinique est destinée seulement aux gens pauvres et la société dentaire assumera tous les frais de cette initiative. Des contrats ont été établis avec les officiers du Silver Threads Service pour fixer les détails d'organisation de ce projet. Le Silver Threads Service a déclaré plus tard que ses officiers choisiront les personnes qui ont droit à ce service. On souligne que c'est le premier plan du genre à être créé au Canada et qu'il servira de modèle à la province de la Colombie britannique pour en fonder d'autres ailleurs.

L'Australie fait part de projets de loi pour les techniciens

Le premier ministre des Nouvelles Galles du Sud, Australie, a fait part des intentions du gouvernement de passer une loi qui permettra aux techniciens, grâce à une licence, de transiger directement avec le public. Cette nouvelle a été annoncée au cours de la conférence annuelle de la section des Nouvelles Galles du Sud du parti travailliste australien. On n'a jusqu'ici que donné les grandes lignes du projet et on s'attend d'une façon générale que plusieurs mois passent avant que la mesure parvienne à la Chambre des Communes. Ces grandes lignes sont celles-ci: le Ministère de la Santé octroiera des licences aux techniciens; (2) les techniciens licenciés pourront transiger directement avec les personnes qui

détiendront un certificat d'un dentiste enregistré à l'effet que leur bouche est saine, propre et prête à recevoir des prothèses; (3) les techniciens licenciés devront se limiter aux prothèses complètes; (4) on ne permettra pas aux techniciens licenciés de procéder à la confection de prothèses immédiates. On a aussi annoncé qu'un technicien, avant de recevoir une licence, devra subir un examen prouvant qu'il a eu une formation égale à celle d'un étudiant d'université au niveau gradué. On interprète ces indications comme voulant dire que le technicien devra avoir une compétence qui serait du niveau académique de celle d'un étudiant dans toutes les phases de la prothèse dentaire complète. L'Association dentaire d'Australie (section des Galles du Sud) a fait part de son intention de s'opposer au bill.

Congrès de l'Association dentaire de la province de Québec à Sherbrooke

les 25, 26 et 27 mai 1961

organisé par la Société dentaire des cantons de l'est



Photo de Sherbrooke

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The Natural Barriers to Infection in the Mouth

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Though there are occasional exceptions, the normal oral epithelium is relatively impermeable to micro-organisms. This phenomenon and the associated natural defences of the oral cavity are of great importance and interest to the dentist.

THE VARIOUS ORGANISMS IN THE ORAL CAVITY

Sloughing epithelium, decayed teeth, food particles, etc. furnish suitable nutrition for bacteria. Catarrhal inflammation which is rarely entirely absent, favours the lodgement of bacteria upon the mucous membranes. Accumulated exudates and secretions beneath the margins of

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TABLE 1. Micro-organisms of the oral cavity

Constantly Present	Commonly Present	Sporadically Present
<i>aγ Streptococci*</i> <i>Spirochaetes*</i>	Anaerobic <i>Streptococci*</i> <i>Veillonella</i> <i>Lactobacillus*</i> <i>Actinomyces*</i> <i>Leptotrichia</i> <i>Fusobacterium*</i> Anaerobic <i>Vibrio*</i> Yeasts	<i>Micrococcus</i> <i>Staphylococcus*</i> <i>β Streptococcus</i> <i>Pneumococcus</i> <i>Neisseria*</i> <i>Corynebacterium*</i> <i>Mycobacterium</i> <i>Klebsiella</i> <i>Haemophilus</i> <i>Bacteroides</i> Protozoa Viruses

*The more important indigenous forms.

the gingiva offer favourable conditions for bacterial growth.¹

The various organisms which may be isolated from the mouth are great in number. The mucous membranes of the oral cavity harbour, regularly and transiently, a varied group of micro-organisms with pathogenic properties.² Table 1³ represents the relative occurrence of micro-organisms present on the mucous membranes of the oral cavity.

THE NATURAL BARRIERS

In view of the foregoing facts, it is surprising that the frequent accidental injury of the gums and oral and pharyngeal mucous membranes so rarely leads to serious infection and that healing takes place so readily. This is a fact which has not as yet been adequately explained.¹

It appears that under ordinary conditions the presence of the surface flora is associated with the development of resistance to it and may in consequence be regarded as beneficial to the host. Beyond this, the hypothesis is widely held that the presence of the indigenous flora on any given mucous membrane may be a factor in preventing the establishment of non-indigenous forms; but very little

is known about the mechanism of such effects.²

Although saliva inhibits the growth of many pathogenic micro-organisms, and is even lethal to some, the remarkable resistance to infection shown by the oral cavity depends more on its mechanical than on its chemical defences.³ Dubos² feels that the manner in which organisms are destroyed in the mouth clearly points to other than mechanical effects, and the idea is supported by the fact that saliva apparently has an inhibitory action upon diphtheria bacilli, upon numerous cocci and organisms pathogenic for the intestinal tract.

It has been postulated that antibacterial factors present in the saliva may be of major significance in regulating oral resistance to infection.

Substances termed "inhibins" have been found in saliva which inhibit the growth of a wide spectrum of bacterial species. Those which inhibited the growth of diphtheria bacilli were called "zidins". It has been reported recently that the in vitro diphthericidal activity of mixed saliva was due to hydrogen peroxide produced by the oral alpha streptococci and that the antimicrobial action of saliva appeared to be associated with organisms of the oral microflora.⁴

Mixed human saliva has been found to contain the following enzymes:⁵

- Acid phosphatase
- Alkaline phosphatase
- Esterases
- Cholinesterase
- Lipase
- Sulphatase (Aryl)
- B-D-galactosidase
- B-glucuronidase
- Lysozyme
- Hyaluronidase

The study by Lisanti⁵ et al., indicated that all but sulphatase and lysozyme were produced by the oral flora.

So far, the only enzyme shown to possess bactericidal activity is lysozyme⁶; it

hydrolyzes an acetyl-amino poly-saccharide constituent of bacterial membranes. It is a basic protein of small molecular weight which rapidly lyses the living cells of a few bacterial species; in addition there are many more species which are killed by the enzyme, though not lysed.

Lysozyme occurs in many types of animal tissues and body fluids. Its antibacterial activity is inhibited by certain polysaccharide acids with which the enzyme probably forms insoluble inactive complexes. The presence of various components and breakdown products of tissues may be of importance, therefore, in determining the effectiveness of lysozyme as an antimicrobial agent in inflammatory areas.⁶

The mouth is lined by a thick layer of stratified squamous epithelium, which through long adaptation to the mastication of hard foods, has come to possess remarkable mechanical strength, and is supported by exceptionally dense fibrous connective tissues.³

There is much evidence that the intact and healthy mucous membrane not only repels non-indigenous micro-organisms, but also limits the proliferation of and prevents invasion by the normal flora.² While the defensive mechanisms concerned with this function are not fully understood, it seems clear that they include the production of such substances as lysozyme and other bacteria-inhibiting and virus-inhibiting agencies, as well as the action mentioned previously, of certain bacteria in limiting the development of others. The defensive mechanisms also embrace a complex group of factors which determine the integrity of tissues and cells. Tissue or cellular damage or impairment is the prime prerequisite for endogenous infection, whether such damage acts merely to contaminate a normally sterile area or, as seems more commonly true, provides conditions that permit normally harmless bacteria to proliferate unduly and become invasive.²

Furthermore the oral mucous membrane is constantly irrigated with the

secretions of the salivary glands, which although much increased during deglutition, ordinarily flow from the simple glands of the mucosa slowly, but continuously. Since the lining of the normal mouth is always moist, any micro-organisms which come in contact with it are carried along by the retrograde movements of the mucus-containing fluid on its surface. The motions of the tongue, lips, cheeks and soft palate together with the acts of chewing, swallowing and spitting, contribute to the removal of bacteria from the mouth.⁷ From all parts of the mouth the flow of saliva is directed backwards towards the pharynx, and the rate of movement is such that most areas of the mouth become freed from foreign matter in less than one half hour.³

Under certain conditions the mechanical defences of the oral cavity may be weakened and breached.

The integrity of the lining epithelium is most often broken at two places: along the gingival margins, and in the depths of the tonsillar crypts.³ Epithelial breaks are always present to varying degrees in normal mouths in the form of deepened gingival sulci and necessarily occur when a tooth is extracted. It has been reported recently⁸, that the incidence of bacteraemia following oral surgery was found to be 38 per cent after exodontia, 24 per cent after gingivectomy and 9 per cent following dental "prophylaxis". The organisms most frequently found were staphylococcus aureus and streptococcus viridans. With the greater number of extractions and greater extent of gingivectomy, there was an increase in positive blood cultures. The blood culture results found after gingivectomy were not influenced by the extent of tooth mobility and the depth of the gingival sulci of the teeth involved. It seems that the disturbance of these micro-organisms by manipulation or surgery rather than the break in the epithelium, may be one of the more important causes of bacteraemia that often follow oral therapy.

The ducts of the large compound sali-

vary glands, particularly that of the parotid gland, also form vulnerable regions in the lining of the mouth.³ Ordinarily these ducts are irrigated by the flow of saliva through them at fairly regular intervals in the course of the day; this restrains the upward extension of the micro-organisms that grow freely at their open lower ends.

However, the secretory activity of these glands, which is ordinarily controlled by sensory stimuli from the mouth and by psychic processes, is exceptionally sensitive in the pathological states of dehydration and of haemorrhage. The cessation of this irrigation of the salivary ducts in states of shock and dehydration deprives the glands of one of their main defences, and largely accounts for the frequency with which ascending infections of the parotid glands occur after severe injuries or surgical operations, or in cholera and dysentery, in which rapid and severe dehydration is often a marked clinical feature of the disease.

SUMMARY

A great variety of organisms with pathogenic properties have been isolated from the oral cavity. The natural barriers to infection encountered in the oral cavity are provided by the presence of the normal microbial flora, an intact lining mucous membrane, and by saliva.

It has been hypothesized that the presence of the indigenous flora on any given mucous membrane may be a factor in preventing the establishment of the non-indigenous forms.

Saliva imposes a barrier to infection not only because of its mechanical washing and flushing action, but also because it contains substances like lysozyme, inhibitors and zidins which have an inhibitory effect upon certain micro-organisms. The flow of saliva within the oral cavity is not a haphazard one but pursues a definite directed course from the front of the mouth towards the pharynx. If the salivary ducts are obstructed, then the nor-

mal flow of saliva is interrupted and the salivary glands are deprived of one of their main defences; this is a condition which predisposes to ascending infections of these glands.

While the mechanisms concerned with the defensive functions of the normal intact mucous membrane are not fully understood, it seems that they include the production of substances such as lysozyme and other bacteria-inhibiting and virus-inhibiting agencies, as well as the action of certain bacteria in limiting the development of others.

It seems that a break in the continuity of the oral epithelium may not be as important a mechanism in the causation of transient bacteraemias following oral surgical procedures as previously thought, but rather the disturbance of micro-organisms by manipulation or surgery may be the important mechanism.

It may be concluded that any condition which depresses the natural barriers encountered in the oral cavity greatly enhances the establishment of oral infection.

RÉSUMÉ

On a isolé de la cavité buccale un grand nombre de bactéries pathogènes. Les obstacles naturels à l'infection rencontrée dans la bouche se constituent par la présence d'une flore microbienne normale, une couche intacte de muqueuse et la salive.

La présence d'une flore normale sur une muqueuse peut être un facteur qui empêche l'installation de bactéries étrangères. La salive est aussi un élément de défense, non seulement par ses propriétés mécaniques de nettoyer et de rincer la bouche, mais aussi à cause des substances qu'elle renferme (lysozymes, inhibines et zidines), qui ont un effet d'inhibition sur certains microorganismes. Le flot de salive de la bouche n'est pas organisé au hasard; il suit un parcours défini de la région antérieure au pharynx. Le flot normal de la salive, s'il s'arrête à cause

d'une obstruction des glandes salivaires prive alors les glandes elles-mêmes de leur moyen de défense le plus important: cet arrêt de salive prédispose aux infections ascendantes des glandes.

On ne comprend pas bien encore les mécanismes de défense de la muqueuse buccale; mais on croit qu'ils consistent dans l'élaboration de substances, telles que la lysozyme et d'autres produits qui mettent en échec les bactéries et les virus; on croit aussi que certaines bactéries ont comme fonction de limiter la prolifération d'autres bactéries. Une solution dans la continuité de l'épithélium buccal ne serait pas, comme on le pensait autrefois, la cause déterminante des bactériémies passagères qui suivent les interventions chirurgicales; le facteur important serait la perturbation des bactéries produites par

les manipulations ou les interventions chirurgicales. On peut conclure que tout facteur qui trouble l'équilibre du milieu buccal favorise l'infection.

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Prosthodontic Practice in Dentistry

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Walking across the campus of Dalhousie University recently, I became aware of a young man proceeding along the street; a young man of about twenty years of

age, nice looking and of good stature. But before observing these attributes, I was made acutely aware that his locomotion involved the use of a crutch as a substitute for the right leg which had been amputated above the knee. My first thought was a pitying one, a thought of how cruel a blow fate had dealt this young man; how he

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had been condemned to almost a lifetime of restricted activities and pleasures, participation in sports and recreations engaged in and enjoyed by healthy unimpaired persons. Speculation as to the cause of the amputation, whether it was the result of his own carelessness or of an accident due to the negligence of another, did not alter the facts that he was crippled for the rest of his life and that the best prosthesis could restore, only in part, the function of the missing leg.

My second unbidden thought was quite different. I thought of how every day we see people who have become crippled for life, their health endangered, and their enjoyment of the good life restricted by the loss of their natural teeth. Do we feel for them the same pity for their impairment that we feel for the boy with the missing leg. Do we appreciate their need for the most skilful and meticulous prosthetic treatment and care it is possible for them to receive?

I do not think we would suggest that the young man with the missing leg be sent to a shoemaker or shoe repair man to be furnished with a prosthesis to restore some of the function of the lost limb. Rather we would suggest that a competent orthopaedist make a careful and complete assessment of the situation and design and prescribe a prosthesis that would utilize the remaining bone and musculature to the fullest extent. We would expect that the tissues which would support the prosthesis would be prepared properly to fulfill their function and that an impression be made by means of which a base could be fabricated that would support the functional load without discomfort to the patient or damage to the remaining tissues.

Why then, should we consider that any less skilful and expert treatment is required or desirable for the dental cripple? Surely, we cannot consider that the impairment is any less real or important because it is not so readily apparent to the casual observer. Surely we cannot relegate the care and treatment of these

people to the denture maker or the denture repair man with any more justification than we can relegate the treatment of the amputee to the shoe repair man. Yet, there are some who would do so.

In recent years, there has been an alarming tendency for prominent people both within and outside the dental profession to minimize the importance of prosthodontic treatment and to place it in the hands of insufficiently trained persons. One can understand the inability of laymen to appreciate what is involved in prosthodontic treatment; to appreciate the need for a painstaking examination and diagnosis and the execution of exacting clinical procedures, prerequisite for which is a background of training in the basic sciences as well as the pre-clinical subjects of anatomy, physiology, bacteriology, pathology, growth and development and radiology. In addition, there is the need for a knowledge of the capabilities and limitations of other divisions of dental treatment. Such a background is possessed only by those who are trained in dentistry, and regardless of the degree of manual dexterity possessed by an individual, without this background he is not capable of providing adequate prosthodontic treatment. Therefore, it is difficult to understand the attitude of some in the profession who minimize the importance of the service that is required by such a large proportion of the population; who seem to fail to appreciate that this service involves a greater use of the biological sciences than other phases of dentistry with the exception of oral surgery and is less mechanical than most.

There appears to be the erroneous impression that the fabrication of a prosthesis is the primary consideration and that the preparation of the tissues to support it, the accurate impression of these tissues, the evaluation of jaw relations with the accurate recording of them, and the proper fitting of the prosthesis are of such insignificance that they can be entrusted to auxiliary help possessing very little training or knowledge of what is involved.

The causes for the development of this situation are obscure, possibly stemming from the fact that years ago, prosthodontics was referred to as "mechanical dentistry". A tendency in our teaching to accentuate techniques and the technical aspects of prosthodontics rather than the biological may have perpetuated this attitude. Another influence may be the growing desire for speed and the reduction of chair time for the patient and the dentist in performing a given operation. There are few acceptable shortcuts in prosthodontics, careful and meticulous performance of the steps in the procedures involved being requisite and essential. Certainly a factor is the worsening ratio of dentists to population combined with an increasing demand for service.

What, then, can be done to restore prosthodontics to its proper place of importance in the practice of dentistry? First, I believe, each of us in the profession must evaluate critically and honestly our own attitude toward prosthetic treatment and, if necessary, revise it. We must then be brutally critical of our own practice of prosthodontics in the light of the service it is possible to provide, and, if necessary improve it. Thirdly, we must ascertain if the students in our dental schools are receiving the best instruction and training it is possible to give them and if not, take steps to ensure that they get it. Furthermore, we must take immediate steps to increase the number of dental students in our schools by active recruitment individually and through recruitment committees of local and provincial associations. Financial assistance must be provided by the establishment of bursaries by provincial or regional groups. Lastly, we must make certain that the practice of prosthodontics is performed only by those who are qualified to do so — the dental profession.

In conclusion, I would repeat what has been said by one of the leading prosthodontists in the profession: "Our edentulous patients are dental cripples and as such are entitled to the finest treatment we can give them."

RÉSUMÉ

Des personnages importants, au sein de la profession et qui lui sont étrangers, ont tendance depuis quelques années à déprécier la valeur des traitements de prothèse et à vouloir les confier à des individus qui n'ont pas la formation nécessaire.

On semble croire, à tort, que la confection des pièces constitue la phase la plus importante du service; on minimise l'importance de la préparation des tissus de support, leur reproduction précise par des empreintes, l'enregistrement exact des relations des crêtes et l'ajustement correct des prothèses: on croit pouvoir confier ce travail à des auxiliaires qui n'ont pas l'entraînement voulu, ni des connaissances adéquates pour remplir ces fonctions. Tout dentiste doit faire un examen de conscience objectif et honnête sur son attitude envers la prothèse et, si nécessaire, corriger sa façon de l'envisager. Il doit analyser sans détour ses techniques et, à la lumière des standards cliniques modernes, les corriger, si la chose est nécessaire. Nous devons nous assurer si les étudiants de nos facultés reçoivent la meilleure formation possible et s'ils ne l'ont pas prendre les mesures qui s'imposent pour améliorer cet état de choses. Il faut, de plus, augmenter sans tarder le nombre des étudiants en chirurgie dentaire par sollicitation directe et à l'aide de comités locaux et provinciaux de recrutement.

Il faut que des groupements municipaux et provinciaux instituent des bourses pour aider les élèves. Seuls ceux qui ont les qualifications requises devraient exercer la prothèse dentaire.

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Effects of Acute and Chronic Trauma on the Pulp and Growing Dentine in the Incisors of Albino Rats

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The albino rat incisor is a constantly growing tooth; a large part of its growth is made possible by the daily apposition of a layer of dentine, which forms an incremental growth pattern^{8,21,22,29}. Any trauma of importance whether local or systemic, acute or chronic, will impede normal growth, or affect the quantity and quality of the dentine deposited.

The dentine can thus be considered as a record of the physiological activity of the odontoblasts. By studying its morphology, one can determine the alterations that took place in cellular activity, on a given day.

REVIEW OF THE LITERATURE

The calcio-traumatic reaction is a sharp response of the odontoblasts to trauma characterized by the production of three morphological zones within the daily incremental line: first, there is a zone of hypercalcification in the newly formed

dentine; then a zone of hypocalcification and another zone of hypercalcification in contact with the odontoblasts. This reaction usually takes less than twenty-four hours to occur^{22,29}.

A number of investigators have observed changes in the dentine following alterations in the metabolism of humans and animals.

In the human teeth, Schour and his group have described the neonatal ring, the infancy ring, the early childhood ring, and the late childhood ring, which represent disturbances in enamel and dentine formation produced by separate traumatic episodes in the life of the subject^{23,26}. The neonatal ring, for example, is a consequence of childbirth.

In animals, the same workers have described changes in the pattern of development and calcification following vitamin A and D deficiencies.

They also described aberrations in growth and calcification in animals submitted to hypophysectomy, gonadectomy, parathyroidectomy, etc. Others, including Weinmann, Massler, Hansen, Bernier, Silberkweit and Perreault have obtained somewhat similar results after submitting animals to local traumas, such as pulpotomies, cavity preparation in the incisor teeth and the use of various drugs and filling materials^{2,3,7,9,10,18,27}.

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PURPOSE OF THE STUDY

To date, reports in the literature deal only with reactions to specific traumas without any attempt being made to classify the intensity of the causative irritant, or the reversibility of the tissue reaction.

The object of the present experiments was to study the production of the "calcio-traumatic reaction", and the influence of various treatments and drugs on the morphology of the dentine. A comparison of the effects following simple and complex procedures was also undertaken.

Special care was taken to study the effects of the various steps in the complex procedure of cavity preparation in the lower incisor of the rat, where after the animal is anaesthetized, the gingiva, the periodontal membrane, and the bone, must be traumatized before the cavity can be prepared in the tooth. Comparison between the reactions of the pulp to local trauma, and to such non-specific stresses as chemical poisoning was also made.

MATERIAL AND METHOD

One hundred and thirty C. F. Wistar strain albino rats were used; they weighed from 150 to 175 Gm. A minimum of five animals were included in each experimental group; they were subjected to the following procedures:

Intraperitoneal Injection of a Physiological Saline Solution (2 cc. per 100 Gm.). To demonstrate the effect of injection alone, no drugs being used.

Ether and Nembutal Anaesthesia. Since most investigators use anaesthesia in one form or another, it seemed logical to study the effects of anaesthesia alone. Six animals received an intraperitoneal injection of a 0.6 percent Nembutal solution, at a rate of 6 mg. per 100 Gm. of body

weight. Others underwent general anaesthesia with ether (open drop technique) for fifteen minutes.

Fracture of Femur. Fracture of the femur represented a non-specific surgical trauma involving calcified tissue. Under ether anaesthesia the right femur was surgically exposed and fractured; the incision was closed and sutured.

Fasting. A three day fast represented the period during which feeding is difficult or impossible following cavity preparation in the rat incisor.

Heat. The animals in this group were submitted to 120° Fahrenheit for three hours. This represented another non-specific trauma which occurs in some laboratories.

Sham Operation. In order to prepare a cavity in a rat incisor, it is necessary to gain access through the gingiva, the bone, and the periodontal membrane²⁷. In this series the gingiva, bone, and periodontal membrane, were penetrated as during cavity preparation but the tooth was left intact.

Open Cavities and Silver Nitrate Applied to a Cavity Preparation. The technique used was that of Silberkweit and Perreault^{18,27}. Both operations representing local irritation to the pulp.

Intraperitoneal Injection of Sodium Fluoride. This represented chemical poisoning. The dosage varied from a near minimum lethal dose to a twentieth of that amount.

6 animals received 0.3 cc. of a 2.5 per cent solution.

6 animals received 0.3 cc. of a 1.25 per cent solution.

6 animals received 0.3 cc. of a 0.625 per cent solution.

6 animals received 0.3 cc. of a 0.312 per cent solution.

Molar Extractions. This procedure represented a surgical trauma (with local implications). In six animals, all the upper molars were removed while in six others the upper and lower molars were removed on the right side.

Intradermal Irritation. The granuloma pouch technique was used²⁸. In this technique air is injected subcutaneously and creates a pouch. Irritants are then introduced into the pouch and are in contact with a surface area proportional to the amount of air injected. A measurable quantity of inflammatory tissue and fluid is produced.

5 animals received 1 cc. of a 2 per cent solution of formalin in a pouch created by the injection of 25 cc. of air.

10 animals received 1 cc. of a 1 per cent solution of croton oil (in olive oil) after the injection of 25 cc. of air.

5 animals received 1 cc. of a 1 per cent solution of croton oil (in olive oil) after the injection of 50 cc. of air.

5 animals received 2 cc. of a 1 per cent solution of croton oil (in olive oil) after the injection of 50 cc. of air.

5 animals received 4 cc. of a 1 per cent solution of croton oil (in olive oil) after the injection of 100 cc. of air.

Controls. 16 unoperated animals were kept as controls.

Duration of Experiments

The survival time was six to eight days following experimental procedures, except in some cases of intradermal irritation when the pouches were excised after seven days and the animals allowed to survive another four days.

TABLE 1. Groups of animals classified according to treatment or operative procedure.

Group	Treatment
1.	Injection of Nembutal.
2.	Ether anaesthesia.
3.	Injection of physiological saline solution.
4.	Sham operation.
5.	Open cavity preparation.
6.	Application of silver nitrate, to an open cavity preparation.
7.	Fracture of the femur.
8.	Fasting.
9.	Heat.
10.	Intradermal irritation with formalin or croton oil (pouch technique).
11.	Molar extractions.
12.	Intraperitoneal injection of sodium fluoride.
13.	Controls.

Histological Preparation

Immediately following sacrifice, the maxillae and mandibles were fixed in 10 per cent neutral formalin. The specimens were decalcified in 5 per cent nitric acid, embedded in paraffin, and stained with haematoxylin and eosin. A few specimens were kept for ground sections.

FINDINGS

The results are summarized in Table 3. Table 2 explains the criteria used in the analysis of the results^{18,27}.

The effects are presented in terms of: (1) the acute effect on the odontoblasts reflected in the character of the calcio-traumatic reaction, and (2) the recovery of these cells as seen in the quality and quantity of the dentine produced by these

cells during the post-operative period.

The reactions observed in this experiment can be grouped in order of increasing severity.

Reactions of Slight Intensity

The reactions were considered to be of slight intensity when the calcio-trau-

TABLE 2. Explanation of the criteria used to evaluate the effects of trauma on the functions of the odontoblasts.^{18, 27}

DENTINE:	Calcio-traumatic reactions:		—N. (Normal) A slight accentuation of the incremental line formed at the time of the operation (calcio-traumatic band) surrounds the pulp completely.
			—1. Calcio-traumatic band slightly more prominent.
			—2. Calcio-traumatic band significantly more prominent.
			—3. Hypocalcified zone of the calcio-traumatic band very wide, which represents a prolonged arrest in calcification of the dentine and indicates a moderately severe reaction of the odontoblasts.
			—4. Dentinal tubules are interrupted. This represents a severe injury to the odontoblasts.
	Postoperative dentine:	Quality:	—N. Indicates that the calcification, structure and amount of dentine formed postoperatively was the same as in the controls.
			—1. Definite disturbance in the postoperative calcification of the dentine. Characterized by an accentuation of the incremental pattern.
		Calcification:	—2. Moderately severe disturbance in the calcification including interglobular dentine. This indicates a slow recovery by the odontoblasts from the acute injury produced by the stresses or traumas.
			—3. Dentinal tubules are reduced in number.
		Structure:	—4. The dentine matrix is without tubules, less homogeneous and fibrillar. The dentine is usually hypoplastic.
			—N. The amount of dentine formed is normal when compared with controls.
		Quantity:	Hypoplasia: Then dentine is deficient in amount. Indicates severe injury to the odontoblasts with partial recovery of the cells.
			Aplasia: Complete lack of postoperative dentine formation. Indicates death of all odontoblasts.

TABLE 3. Summary of the effects of trauma on the pulp, the odontoblasts and the dentine of albino rat incisors.

Time elapsed between treatment and sacrifice	Procedure	Calcio-traumatic reaction	Postoperative calcification and structure	Effects on odontoblastic function
6 days	Controls		N	
6 days	Saline solution	N	N	Transitory with rapid and complete recovery.
6 days	Nembutal	N	N	
7 days	Heat	1	N-2	Transitory with complete recovery in a day or two.
6 to 7 days	Sham	1-2	N	In the case of heat the recovery was slower.
7 days	Fasting	1	N	Seems transitory but in some specimens no incremental lines (corresponding to period of fast) were found.
6 to 8 days	Fracture	1-2	N	Initial reaction more marked and recovery complete.
6 days	Ether	N-1	N-1	
7 days	Extraction of maxillary molars	2 (operated quadrant). 1 (non-operated quadrant).	N	Initial reaction more accentuated in the operated quadrant. Recovery of the odontoblasts was good.
	Extraction of left maxillary and mandibular molars	2 operated quadrant). 1 (non-operated quadrant).	N	
7 days	Intradermal irritation—100 cc air/ 4 cc croton oil	2	1	Initial reactions were well defined. Recovery of the cells was good.
	Intradermal irritation, 25 cc air/ 1 cc formalin	1-2	1-2	
	Intradermal irritation 50 cc air/ 2 cc croton oil	1	N-to 1	
	Intradermal irritation. 50 cc air/ 1 cc croton oil	N	N	
	Intradermal irritation 25 cc air/ 1 cc croton oil	N	N	

See Table 2 for detailed explanation of symbols.

TABLE 3. (continued)

Time elapsed between treatment and sacrifice	Procedure	Calcio-traumatic reaction	Postoperative calcification and structure	Effects on odontoblastic function
7 days	Sodium fluoride 0.3 cc at 2.5%	3	1	The highest dosage produced a very sharp initial reaction. Recovery of the odontoblasts is excellent.
	Sodium fluoride 0.3 cc at 1.25%	1	N	
	Sodium fluoride 0.3 cc at 0.625%	N	N	
	Sodium fluoride 0.3 cc at 0.312%	N	N	
6 to 7 days	Open cavity	1-2	N, shallow cavity. 1, medium cavity Hypoplasia (small in deep cavities).	Transitory to permanent injury depending on depth of cavities.
6 to 7 days	Silver nitrate	2-4 according to depth of cavity	Hypoplasia (small) to aplasia according to depth.	Destructive. Hypoplasia in shallow cavities. Aplasia and pulpal necrosis in medium and deep cavities.

See Table 2 for detailed explanation of symbols.

matic reaction was slight and the postoperative dentine normal. This reflected a trauma of minor intensity and of short duration, with a complete recovery of the odontoblasts and the cells of the pulp.

This group included:

Injection of Physiological Saline Solution and Nembutal. The calcio-traumatic reaction in this group of specimens was represented by a slightly accentuated incremental line. This indicated that the shock to the odontoblasts was of short duration and low intensity.

An uneventful recovery was indicated by postoperative dentine of normal quantity and quality.

Heat and Sham Operations. The histological picture in these specimens was similar. However, the calcio-traumatic band in the animals subjected to the sham operation was somewhat accentuated in comparison with the calcio-traumatic band in those subjected to heat.

The incremental lines in the postoperative dentine of the animals subjected to a sham operation were well defined. The animals subjected to heat showed differences in the quality of the postoperative dentine, varying from normal dentine to interglobular dentine.

This indicates that in the animals subjected to a sham operation the initial reaction was marked, while the quality

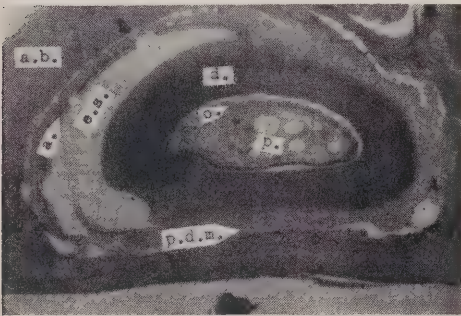


FIGURE 1

Lower rat incisor. Control animal. Haematoxylin and Eosin stain. Original magnification 30 X.

LEGEND

- c.t.r. — calcio-traumatic reaction,
- p.d.m. — periodontal membrane,
- e.s. — enamel space,
- a.v. — alveolar bone,
- p. — pulp,
- d. — dentine,
- a. — ameloblasts,
- o. — odontoblasts.

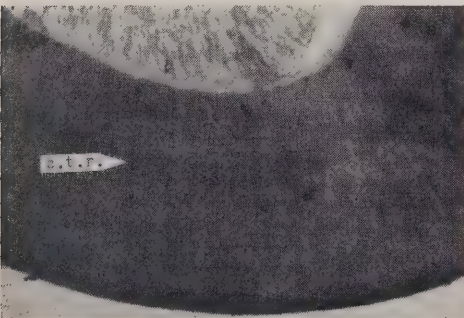


FIGURE 3

Lower rat incisor. Original magnification 100 X. Haematoxylin and Eosin stain. The animal received a peritoneal injection of 0.3 cc. of 0.312 per cent sodium fluoride. The calcio-traumatic reaction is very faint.

and quantity of the postoperative dentine is nearly normal. In the animals subjected to heat, the initial reaction is less severe but the recovery of the odontoblasts is delayed.

Fasting. In this series the immediate reaction was slightly accentuated. While the postoperative dentine appeared quite normal, incremental lines were missing in at least two specimens. The missing incremental lines corresponded to the days of fast.

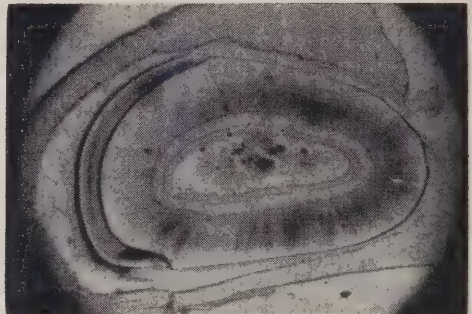


FIGURE 2

Ground section of a lower rat incisor. Original magnification 30 X. Vital staining was performed with Alizarin S. The peritoneal injections were done 1, 3 and 6 days before sacrifice. A diffuse colouration was observed in the bone while in the dentine three separate rings can be seen.

Reactions of Moderate Intensity

The reaction was considered to be moderate in intensity when the calcio-traumatic line was definitely more accentuated than in the preceding group. In many cases accentuation of the incremental pattern indicated a slower recovery of the cells. In this group were included:

Fractures and Ether Anaesthesia. These two series are assessed together because



FIGURE 4
Dentine. Original magnification 100 X.

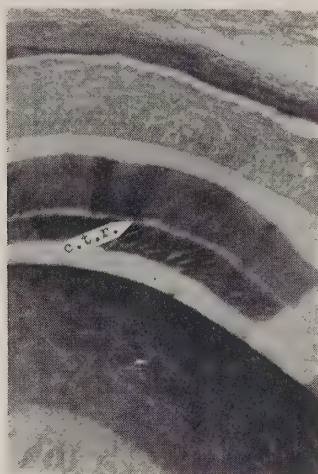


FIGURE 5
Enamel. Original magnification 100 X.

Upper rat incisor. Haematoxylin and Eosin stain. The animal received an intraperitoneal injection of 0.3 cc. of 2.5 per cent sodium fluoride. The calcio-traumatic reaction is extremely sharp and well defined not only in the dentine but also in the enamel matrix.



FIGURE 6
Original magnification 30 X.

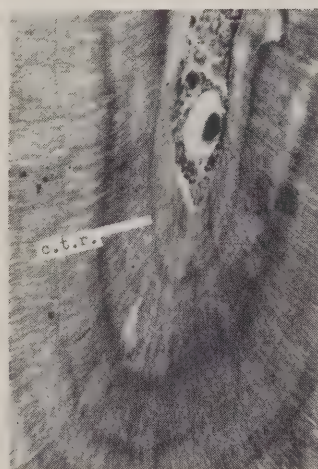


FIGURE 7
Original magnification 100 X.

Lower rat incisor. Haematoxylin and Eosin stain. A granulomatous pouch was produced 10 days before sacrifice and excised 3 days before sacrifice. The calcio-traumatic reaction occurred following each operation.

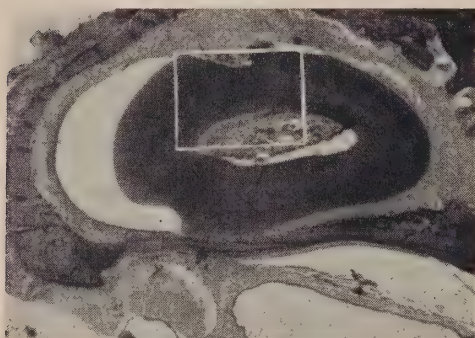


FIGURE 8A

Cavity in lower incisor tooth prepared at low speed, shallow depth. Original magnification 30 X. Haematoxylin and Eosin stain. Note that the accentuation of the calcio-traumatic reaction is restricted to the area underlying the cavity.



FIGURE 9A

Cavity in lower incisor tooth prepared at low speed, medium depth. Original magnification 30 X. Haematoxylin and Eosin stain. Note the accentuation and the character of the calcio-traumatic reaction as compared with Figure 8A and 8B.



FIGURE 8B

Higher magnification of the area outlined in Figure 8A.

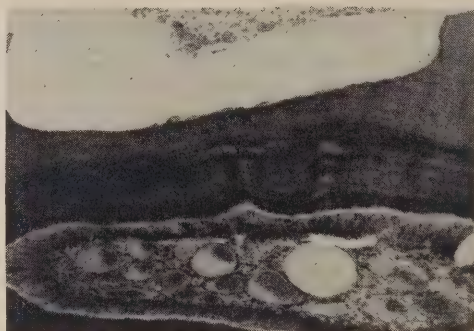


FIGURE 9B

Higher magnification of the area outlined in Figure 9A.

they presented almost identical histological pictures. The calcio-traumatic reaction is pronounced and the incremental lines of the postoperative dentine are accentuated. This represented a more intense reaction from which the cells re-

cover slowly.

Molar Extractions. The reaction was not identical in all four incisors. It seemed to be of greater intensity in the quadrant where the surgical intervention occurred.

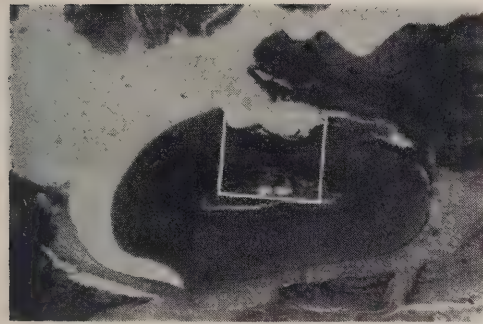


FIGURE 10A

Silver nitrate in a shallow cavity. Original magnification 30 X. Haematoxylin and Eosin stain.

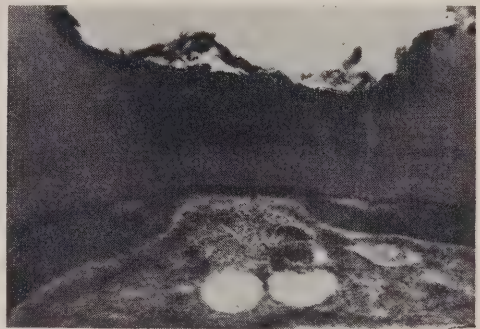


FIGURE 10B

Higher magnification of the area outlined in Figure 10A.

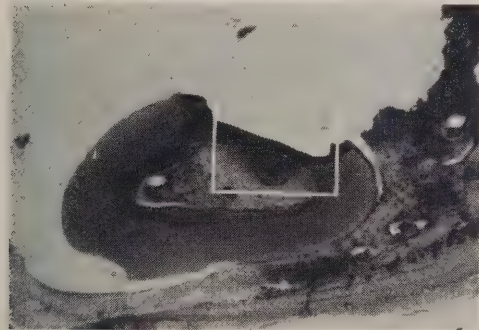


FIGURE 11A

Silver nitrate in a deep cavity. Original magnification 30 X. Haematoxylin and Eosin stain. Note pulpal involvement and compare postoperative dentine with Figures 10A and 10B. Silver nitrate does injure the pulp regardless of whether or not it is neutralized or precipitated with formalin or eugenol.^{3, 18.}

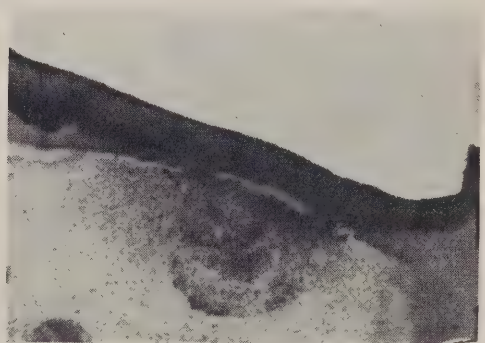


FIGURE 11B

Higher magnification of the area outlined in Figure 11A.

Intradermal Irritation. As the dose of the irritant and the amount of air decreased, so did the intensity of the reaction. With the largest doses, the initial reaction was well defined and the recovery of the odontoblasts was excellent. With the smaller dosages, the initial reaction was almost non-existent. In cases where the pouches were removed after several days, both the procedures (the injection and the excision) could be traced and evaluated as well defined reactions in the dentine.

Reactions of Severe Intensity

The calcio-traumatic reaction was dramatic.

Sodium Fluoride. In the animals where fluoride was injected in near-lethal doses, the irritation was severe but of short duration. The recovery of the cells was good and the postoperative dentine was considered normal.

Open Cavity. The initial reaction was accentuated. The reaction was much more marked in the area underlying the cavity preparation, indicating local trauma. But the most interesting observation was that as cavity depth increased the quality and quantity of the postoperative dentine changed. When the cavity was a shallow one, the postoperative dentine was normal. If the cavity was of medium depth, the recovery of the cells was delayed. If the cavity was very deep (less than twenty microns from odontoblasts), hypoplasia confined to the postoperative dentine under the cavity was observed. This means that the odontoblasts reacted inversely with the amount of shock. The fact that the cavity was left open did not have much effect, because the connective tissue of the periodontal membrane rapidly grows into and covers the cavity, thus protecting it from external irritants such as saliva.

Silver Nitrate. A similar phenomenon to that noted in the previous group was observed here, but the silver nitrate added a chemical irritation to the mechanical irritation already caused by the cavity preparation. The odontoblasts did not usually survive this added insult. The initial reaction was intense and the postoperative dentine was always markedly deficient either in amount or in quality. Hypoplasia was observed even in shallow cavities. In very deep cavities aplasia occurred and most of the circumpulpal postoperative dentine was hypoplastic. This means that not only were the odontoblasts under the cavity destroyed, but that the other cells in the pulp showed a reduction in their functional activity. The silver nitrate affected the pulp itself and consequently the connective tissue from which the odontoblasts were derived.

a constant nature whether the trauma applied is local or systemic in origin.

The intensity of the reaction varies from a barely visible calcio-traumatic band, to aplasia with pulpal involvement. Intermediate steps are an accentuation of the incremental pattern of the postoperative dentine, globular dentine formation and hypoplasia.

Local trauma will produce reactions of much greater severity, than those due to systemic trauma.

The most serious reaction following a systemic trauma was the well defined calcio-traumatic reaction following fluoride poisoning. Any attempt to produce a reaction of greater severity by systemic means resulted in death of the animals. The toxic agent used not only affected the odontoblasts but destroyed vital cells elsewhere in the body causing the death of the animal.

We also observed that the trauma caused by the routine handling of the animals, i.e., anaesthesia, temperature changes, and failure to eat, produced changes of minor intensity. The reactions to local trauma of slight intensity, were occasionally overshadowed by the systemic reaction which accompanied any local intervention.

CONCLUSION

The present investigation was designed to study the effect of local and systemic trauma on the constantly growing pulp and dentine of albino rat incisors. A comparative study of the effects of these procedures is presented.

RÉSUMÉ

Lorsque formés, les tissus dentaires sont remarquablement stables et résistants; au contraire, les cellules qui donnent naissance à l'émail et à la dentine

SUMMARY

During this project, it was observed that the reaction of the odontoblasts is of

sont très labiles. Tout traumatisme subi par ces cellules se traduira par une modification quantitative ou qualitative du tissu dur en formation au moment de l'accident.

L'examen histologique des caractères des tissus dentaires permet de retracer l'histoire des chocs subis aussi bien au niveau des tissus dentaires proprement dits qu'au niveau de l'ensemble de l'organisme.

Un traumatisme léger de courte durée ne laissera à peu près aucune trace alors qu'un choc violent ou prolongé pourra provoquer un arrêt complet de la formation des tissus.

Le présent ouvrage comporte une étude comparative des effets de traumatismes locaux ou généraux qu'ont subie des rats de laboratoire.

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ABSTRACTS

Toxicity Studies with Sodium Fluoride and Amine Fluorides

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The toxicity of sodium fluoride and of the hydrofluorides or hydrochlorides of long chain amines was studied in Sprague-Dawley rats.

In the acute toxicity experiments sodium fluoride was about half as toxic as the organic compounds when compared at the fluorine level. High doses of amines produced inflammations.

An experiment with administration of sodium and amine fluorides in the drinking water is described. Fluorine intake, weight gains, haematology and organ weights were studied. Small changes were found in haematology and organ weights.

In further investigations, the stomach tube technique was used to administer dentifrices containing the sodium fluoride or amine fluorides. No effects on weight gains or organ weights were revealed when the daily dose of fluoride was 0.5 milligrams per kilogram rat body weight. An account is given of the histo-

logical changes induced by the fluorides. Under the experimental conditions used, the changes by sodium fluoride as described in the literature did not occur. High doses of amines appear to cause marked lymphocyte infiltrations. Lymphocytosis was most commonly encountered in acutely intoxicated animals. In the chronic experiments outlined, only two animals with lymphocyte infiltrations were observed.

Toxicological implications associated with the use of the amine fluorides in a dentifrice are discussed. The literature available on fluoride dentifrices and urinary fluoride excretion indicates that minimal amounts of fluoride are ingested from fluoride contained in the dentifrice. Adverse effects by the use of dentifrices containing the amine fluorides may therefore be considered highly improbable.

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Oral Versus Parenteral Penicillin

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A recent survey carried out among general medical practitioners in England revealed that the ratio of cases treated by oral penicillin to those treated by injection was 5 to 2. Since no direct comparisons were made between oral and parenteral penicillin, it is the object of this report to present such comparative data.

The trial was carried out on patients over 6 years of age with a variety of infectious diseases. Most of the cases were of upper respiratory infections, and they included 7 cases of scarlet fever, 9 cases of severe tonsillitis, 3 cases of moderately severe tonsillitis, 7 of otitis media and 13 cases of infections which did not specifically fall into the previously mentioned clinical categories. For the most part, alternate patients were treated by parenteral or oral penicillin. Before treatment, the clinical status of each patient was evaluated; temperature, pulse rate, and the general state of the patient was noted. Laboratory tests included white blood cell counts and differential counts, and throat swabs.

The patients who were treated orally received one tablet containing 500,000 units potassium penicillin G (Falapen) twice daily. Parenteral therapy consisted of 600,000 units of procaine penicillin G given

intramuscularly every 24 hours. Observations and laboratory work on the patients were continued for three days; at the end of this time, the orally treated patients had received a total of 6 tablets of penicillin, and parenterally treated patients 3 intramuscular injections of penicillin. Treatment, however, was continued for an additional two days in all cases.

The results of this study showed that the administration of one tablet of long acting oral penicillin every 12 hours is as effective as 600,000 units of aqueous suspension of procaine penicillin G administered once daily by injection in the treatment of penicillin-sensitive infections. The main advantages of oral penicillin are ease of administration and lowered incidence of anaphylactoid reactions. These advantages are offset to some extent by the necessity of repeated administrations during the day in order to maintain adequate antibacterial blood levels. The clinical and laboratory data in this report indicate that infections caused by penicillin-sensitive organisms may be effectively treated by two tablets of long-acting oral penicillin daily. Injectable penicillin did not seem to offer any particular therapeutic advantage in the treatment of these patients.

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DENTAL PUBLICATIONS OF CANADA

The "R.C.D.S. Newsletter" is published by the Royal College of Dental Surgeons of Ontario at 230 St. George Street, Toronto, Ontario. The "Newsletter" appears several times each year. Dr. W. J. Dunn is the editor.

EDITORIALS

A Verdict for Fluoridation in Ontario

Elsewhere in this issue of the Journal there appears a summary of the report of the Ontario Fluoridation Investigating Committee which was tabled in the Ontario legislature on February 21. The committee, under the able chairmanship of Mr. Justice K. G. Morden, devoted almost two full years to an exhaustive examination of all aspects of water fluoridation. Every opportunity was given to the public and private submission of viewpoints representing every conceivable shade of opinion. Having carefully sifted and analysed the accumulated information on the subject, the committee has now rendered a clear-cut, unanimous verdict: Fluoridation is beneficial, safe, and necessary, and does not infringe personal rights or civil liberties.

The committee rightly considers dental caries a serious and major public health problem for which adequate treatment is beyond the resources of the dental profession. The committee is convinced that the reduction of the incidence of dental caries is a problem of prevention, not one of

treatment. It recognizes the importance of oral hygiene but at the same time stresses the limitations of a good oral hygiene program in our present society. The committee is thus convinced of the urgent need for an effective public health caries control measure. The consumption of mechanically fluoridated water fills this need.

Because of the growing significance of the civil rights aspect of water fluoridation during recent years, the committee devoted much time and effort to this subject. Its verdict is simple and to the point: "fluoridation of municipal water supplies by the authority of appropriate legislation would not be a denial of any fundamental or basic civil rights or liberty which the legislature of Ontario should protect and preserve."

A bill to enable municipal councils to pass by-laws permitting fluoridation was introduced in the Ontario legislature by Health Minister M. B. Dymond on March 2. The bill would permit fluoridation with or without a vote of the electors. A mu-

nicipal council may hold a plebiscite if it wishes. A petition signed by ten per cent of the electors would make a plebiscite mandatory. The council would be bound by the outcome of such a referendum.

The chairman of the Council of Metropolitan Toronto has since been reported as saying that he would propose adoption of a by-law ordering fluoridation of the metropolitan Toronto water supply. The Mayor of the city of Toronto reportedly said that there is no need for a plebiscite since the metropolitan council had previously decided in favour of fluoridation,

and that only approval of a by-law was needed.

Thus it would seem that the benefits of fluoridation may at long last become available to significant segments of our population. The verdict of the Ontario Fluoridation Investigating Committee will have far-reaching consequences. It provides a powerful stimulus for an important public health measure. Local municipalities would do well to follow the recommendations of the committee's report. There should be no further delay in the implementation of this important public health measure.

The Importance of Immediate Treatment for Injuries to Teeth

There is perhaps no single dental episode which is more tragic and disturbing in terms of its psychological impact on both the parent and the child than the loss or injury of a child's anterior teeth. The majority of fractured or displaced teeth result from minor accidents or falls while participating in games and sports or from common pranks such as pushing a child's head against the side or upon the spout of a drinking fountain. Thus an attractive youngster's face may be instantly disfigured, rendering him the target for teasing and ridicule by his playmates. In the absence of timely care, the disfigurement may result in a more

deep-seated emotional disturbance. Further, if the teeth are not properly restored, the victim may ultimately be restricted or even deprived of participation in selected social activities and employment opportunities.

For these reasons, it is important that every dentist be well prepared to handle these emergencies as soon as they arise. The nature of the care which the victim receives immediately following the accident is of importance, and the final outcome may well depend upon the quality of this initial care.

It is necessary, as a first step, to determine the time which has elapsed since the

occurrence of the accident. From this and from clinical and radiographic findings the extent of the injury may be assessed. Radiographic examination is deemed advisable even in the absence of any frank injury in order to provide a record for comparison at a later date. Very little may be required at this stage beyond the smoothing of a roughened fracture edge. On the other hand, a more deep-seated fracture may necessitate the placement of a suitable capping material and the cementation of a protective crown form, while injuries resulting in extensive pulp exposure may require pulpotomy or pulpectomy in addition to the foregoing measures.

Each of these procedures is well within the grasp of the general dental practitioner. They do not require specialized training, unusual instruments or supplies. Their success, however, depends in large measure upon the timely and efficient provision of the requisite

treatment, and it may well be that the presence of a simple accident kit in every dental office containing a selection of resin or stainless steel crown forms for anterior teeth, crown-forming pliers, crown and bridge scissors, calcium hydroxide paste, camphophenique and camphorated monochlorophenol could serve to advantage in this respect.

Regardless of whether the attending dentist himself provides follow-up care and subsequent permanent correction of the defect or whether the patient is referred to a colleague for this purpose, the importance of adequate first-aid treatment cannot be too strongly emphasized. The confidence which the dentist imparts can do much to allay the apprehension of the parents and the child. Timely application of his good judgement and skill can have an important bearing upon the prognosis. There is a legitimate responsibility here for every dental practitioner. He must not fail the child in need.

Jubilee Greeting to the Canadian Medical Association Journal

On January 7, the *Canadian Medical Association Journal* marked the fiftieth year of its existence with a handsome fiftieth anniversary number.

The first issue of the *Canadian Medical Journal* was published on January 1, 1911, forty-four years after the establishment of the Canadian Medical Association. Under the distinguished guidance of Sir Andrew McPhail, A. D. Blackader, A. G.

Nicholls, H. E. MacDermot, S. S. B. Gilder and D. C. Graham, the Journal has grown and matured over the years into the respected image of the Canadian physician and of the achievements of Canada's medical profession.

To the Canadian Medical Association, the Canadian Dental Association extends congratulations and best wishes on the fiftieth anniversary of its Journal.

BUREAUX, COMMITTEES AND COUNCILS

Ontario Committee Recommends Fluoridation

Bureau of Public Information

Legislation should be enacted empowering municipalities to introduce fluoridation of their water supplies by by-law without the necessity of a referendum, according to the report of the Ontario Fluoridation Investigating Committee tabled in the Ontario Legislature, February 21, 1961.

The committee also suggested that legislation permit fluoridation of water supplies not controlled or operated by municipalities. It recommended a concerted program to supply the people with accurate nutritional information as part of a total health and dental health education program. The committee also proposed a constant review of alternatives to water fluoridation which may prove feasible for areas not served by communal water systems.

Said the committee's report: "We are convinced that it has been conclusively proved that the presence of fluoride, either naturally occurring or mechanically added in a municipal or communal water supply in concentrations of approximately 1 part per million, strikingly reduces the incidence of dental caries when such water is consumed during the period of tooth development and that the caries-reducing effect of fluoride extends into adult life . . . We are convinced that the incidence of dental caries in Ontario is of such magnitude that it must be regarded both as a serious and a major public health problem and that adequate treatment of dental caries in the whole population is beyond the resources of the dental profession . . . We firmly believe that the reduction of the increase of dental caries is a problem of prevention, not one of treatment."

The report continues: "We realize the importance of good oral hygiene but at the same time recognize the limitations of a good oral hygiene program in our society. We also realize the importance of proper nutrition in the reduction of the incidence of dental caries but acknowledge, with some degree of astonishment and with much concern, the inadequacy of our overall nutrition in Ontario."

The committee also reported that it is convinced that the long term ingestion of fluoride at approximately 1 part per million is not harmful to bodily health. Also, that the equipment in use in municipal water systems for the addition of fluoride is mechanically adequate for this purpose and that the concentration of fluoride can be controlled safely and effectively. The report states the committee's belief that the cost of fluoridating a muni-

cipal water supply is very reasonable in relation to the health benefit to the community. The presence of fluoride in the recommended concentration, the report says, does not cause corrosion of water mains, pipes and fittings nor does it affect adversely in any way industrial processes. "We believe that at the present time there is no practical alternative to the fluoridation of municipal water supplies in those areas where the water does not contain approximately 1 part per million of fluoride . . . We hold the firm opinion that the fluoridation of municipal water supplies by the authority of appropriate legislation would not be a denial of any fundamental or basic civil right or liberty which the legislature of Ontario should protect and preserve."

COMMITTEE PROCEDURE

The Ontario Fluoridation Investigating Committee was appointed in March 1959 and given power similar to that of a Royal Commission. Chairman of the committee was Mr. K. G. Morden, a Justice of the Court of Appeal of the Supreme Court of Ontario. Members of the committee were Dr. G. E. Hall, president of the University of Western Ontario and Mrs. Egmont L. Frankel. Mrs. Frankel was later replaced by Mrs. Cameron McKenzie.

After deciding how to proceed in the inquiry, the committee first consulted Dr. R. G. Ellis, dean of the Faculty of Dentistry at the University of Toronto. As a result, the committee requested written reports from three Toronto faculty staff members, R. M. Grainger, G. Nikiforuk and K. J. Paynter. Reports were also requested from a nutrition expert, a professor of pharmacology and a professor of preventive medicine. These scientists were asked to review literature in the particular fields assigned to them and prepare comprehensive reports based on that literature.

These reports were prepared toward the end of 1959 and then the committee decided to hold public hearings and to invite briefs from anyone interested. Among the 91 briefs submitted were those of the Canadian Dental Association and the Royal College of Dental Surgeons of Ontario and the Ontario Dental Association. All briefs were read by the committee and public hearings were set for May 1960. Several private hearings were also held during the summer and autumn. The committee did hear at length the leading professionally qualified opponents of fluoridation and considered all the relevant scientific opinions to which it was referred or which it found through its own efforts. Further information was obtained from additional reports, correspondence, questionnaires and surveys. The committee's exhaustive study ended in December 1960 and preparation of the written report began.

ONTARIO'S DENTAL HEALTH PROBLEM

"That dental caries is a much more serious problem than most people realize, or are

willing to admit, can no longer be doubted," the report states. "The magnitude of the total dental health problem (dental caries, malocclusion, periodontal disease etc.) generally not appreciated, is so great that it should, and indeed must, command the attention not only of health authorities, but of the people of Ontario themselves, . . . there is little doubt that the total national physical handicap due to dental disease and poor oral hygiene is such as to place it as a major health problem," the report continues.

At least two of the witnesses heard by the committee questioned the accuracy of the D.M.F. index on the basis of human error in examination. The committee believes that regardless of a few minor defects, the D.M.F. index is presently the only quantitative tool available for measuring the dental caries rate in a population.

The committee also believes that there is apparently a widespread indifference to the problem of dental health and in some areas actual neglect on the part of parents with respect to dental caries in their own children, despite many efforts at dental health education. All of these educational efforts of various agencies and the examining services of schools and other agencies will not change the inadequate dental care of our people until the people themselves show more personal concern with this important problem, the report states. "If there were a sufficient number of dentists available to do the work, . . . remedial filling of cavities alone is not the whole answer to the dental caries problem . . ." Using figures provided by the Canadian Dental Association, the committee reported that the annual cost of treatment of dental diseases is presently in excess of one hundred million dollars in Canada, about forty-seven million dollars in Ontario, and approximately seventeen million dollars in Metropolitan Toronto. "The magnitude of the economic and dental manpower problems precludes satisfactory control of dental disease without . . . adopting preventive measures."

NATURAL AND ADDED FLUORIDES IDENTICAL

Several of the witnesses appearing before the committee stressed that fluorides occur-

ring naturally in water supplies were different from those which had been added to the water supplies in the form of sodium or calcium fluoride. That they are different does not alter, in the committee's opinion, the fundamental chemical concept that the fluorides in both instances are in the form of fluoride ions and are identical in both. The committee made an exhaustive study of the chemistry of fluoride and of the history of the action of fluoride in water. The committee reported its conviction that relevant studies (Brantford, Sarnia, Stratford, Kingston-Newburg, etc.) are epidemiologically sound and conclusively proved that the presence of fluoride, either naturally occurring or mechanically added, in any municipal or communal water supply in concentrations of approximately 1 p.p.m. strikingly reduces the incidence of dental caries when such water is consumed during the period of tooth development and that the caries-reducing effect of fluoride extends into adult life.

Careful study was also made of the medical effects of fluoridation. The committee satisfied itself that there is no evidence to suggest that the prolonged consumption of fluoridated water, many times in excess of optimal concentrations, has any deleterious effects upon skeletal system of the body or upon renal function. The committee was convinced that the long term ingestion of fluoride at approximately 1 p.p.m. is in no way related to heart disease, cancer, nephritis, gastric conditions, arthritis, liver disorders, diseases of the respiratory system, diseases of the nervous system, disease of the cardiovascular system, disorders or diseases of the blood cells, or of many other glands, organs, or diseases of the body. "We are convinced that a concentration of 1 p.p.m. of fluoride in drinking water is eminently safe over a very wide range of water intake . . . There are no ill-effects associated with the consumption of mechanically fluoridated water in concentrations of approximately 1 p.p.m."

MECHANICAL AND ECONOMIC ASPECTS

An extensive study of the mechanical and economic aspects of fluoridation was carried out by the committee. Engineers were interviewed and the committee visited the water works at Brantford, finding that fluoridation methods are both reliable and accurate. There is no reason, the committee reports, to expect that an excessively large quantity of fluoride could be added accidentally to the water supply. Mechanical failure of fluoridation machinery results in cessation of the operation, cutting off the supply of the fluoride compound. The committee could find no evidence relating corrosion and fluoride

concentrations in those areas of Ontario now fluoridating.

One of the chief complaints advanced at the public hearings and in the briefs to the committee was that fluoridation is both costly and wasteful. The committee's report points out that the purification of communal water supplies may also be considered costly and wasteful since the bulk of the water is not used for human consumption. The annual cost per capita of fluoridation is estimated at 10 cents. A conservative estimate of the cost of dental restorations to be expected in the first five years of the average child in Toronto, when related to the cost of fluoridation, and resultant saving through fluoridation of about 50 per cent, justifies the cost of fluoridation. Other considerations are the social desirability of improving the dental health of the population and the feasibility and economic cost of alternative methods of administering fluorides. The committee concluded that the mechanical equipment used in fluoridation is adequate and safe and that the cost of fluoridating a municipal water supply is very reasonable in relation to the health benefits to the community.

ALTERNATIVES

The committee investigated several alternatives to communal water fluoridation, including the use of fluoride tablets, fluoridated salt, fluoridated milk, topical application of fluorides, concentrated fluoride solutions, stannous fluoride dentifrice and home fluoridation equipment. The committee concluded that at the present time there is no practical alternative to the fluoridation of municipal water supplies. In addition, the committee is concerned that since such methods of ingesting fluorides are of necessity voluntary procedures sight may be lost of the public health benefits to be derived from fluoridated water.

CIVIL RIGHTS

Because of the complexity of the problem, the committee reported at length on the civil rights or liberty issue. This question was considered on the assumption that where fluoridation is introduced there the inhabitants have no practical alternative and are compelled to consume it. In the committee's opinion, the issue is this: is the state morally justified in compelling a proportion of the inhabitants of a particular community to ingest fluoridated water from which they may not derive any immediate benefit in order to insure that another group in the community, the children, will have better teeth with the result as time passes the

benefit will enure to an increasing proportion of the population?

Apart from the specific rights mentioned in certain statutes, rights of the people are to be found in the unwritten common law. Any interference with the citizen's freedom is illegal unless it can be justified by some statute or rule of common law. None of the recognized civil rights or liberties is absolute and unqualified. Restrictions and qualifications upon the free exercise of any right are essential for the purpose of protecting vital community interests. The legislature is sovereign. Recent history has shown that the public has expected, in fact, demanded that the state assume increasing responsibility for functions previously left to private responsibility. The action of the state in this direction has, of course, diminished the citizen's area of freedom but this has been done with the approval of public opinion.

On the argument that fluoridation encroaches upon the freedom of religious worship the committee decided that no group can be conceded, on the ground of its religious beliefs, the right to withhold from the great majority of the public a benefit it desires. The fact that municipal water is fluoridated in no way prevents exercise of religious liberty as commonly recognized, said the committee. The report continues: "If fluoridation were introduced, the range of

the individual's freedom to exert his mind and body in his own interests, to communicate his ideas and to combine with others in lawful pursuits would not be affected or curtailed. If the legislature authorized fluoridation in the exercise of our democratic process, the objectors will of course be disappointed but they will be free to renew this argument by speech, pamphlets and public meetings with the hope that the legislature might be persuaded at a later date to alter its decision." After carefully weighing civil rights considerations, the committee concluded that fluoridation of water supplies by the authority of appropriate legislation would not be a denial of any fundamental or basic civil right or liberty which the legislature in its wisdom should seek to preserve.

LEGISLATION RECOMMENDED

The committee recommended that legislation be introduced which will allow municipalities to introduce fluoridation without the necessity of a referendum. "We are strongly of the opinion that this issue should not be decided at the local level by referendum . . . It is the type of issue which, in our opinion, municipal councils should take the responsibility of deciding and should not be required to take a vote of their inhabitants before acting."

Dental Personnel in Canada, 1961

Bureau of Economic Research

In January 1961, 5,865 dentists were registered in Canada. The increase in personnel during the past year has not kept pace with population growth. Again, the ratio of den-

tists to population has increased—from 1/3018 last year to 1/3037 this year. Newfoundland still has the poorest ratio (with 10,929 people for every dentist), but it should

be noted that in the past ten years this province has doubled its supply of dentists. Ontario and British Columbia have the best ratios (1/2423 and 1/2426). During 1960, more dentists moved to Manitoba than to any other province.

All provinces except Saskatchewan have more dentists now than in 1938. Newfoundland, British Columbia, Alberta, and Quebec have all increased their supply of dentists at

a greater rate than has the country as a whole. Fifty-three dentists died and 82 retired during 1960. There are 17 more full time specialists this year but only 74 dental hygienists in the whole of Canada. Three provinces have no hygienists.

The information in the following tables was provided by the provincial registrars. Their co-operation is very much appreciated.

TABLE 1. Dentists registered in Canada, 1961.

Province	Men	Women	Both
Newfoundland	40	2	42
Prince Edward Island	31	0	31
Nova Scotia	193	3	196
New Brunswick	119	1	120
Quebec	1378	10	1388
Ontario	2461	52	2513
Manitoba	285	1	286
Saskatchewan	194	2	196
Alberta	425	6	431
British Columbia	651	11	662
CANADA	5777	88	5865

TABLE 2. Changes in dental registers during 1960.

Province	Deleted from Register			Added to Register
	Deaths	Retirements	Relocated	
Newfoundland	0	0	1	1
Prince Edward Island	1	3	0	0
Nova Scotia	3	0	1	7
New Brunswick	0	0	1	2
Quebec	10	51	15	61
Ontario	20	12	48	116
Manitoba	5	2	3	15
Saskatchewan	2	3	5	6
Alberta	1	6	7	28
British Columbia	11	5	11	34
CANADA	53	82	92	270

TABLE 2. Relocation of Canadian dentists during 1960.

To													Total
From	Nfld.	P.E.I.	N.S.	N.B.	P.Q.	Ont.	Man.	Sask.	Alta.	B.C.	U.S.A.	Elsewhere	
Nfld.						1							1
P.E.I.													0
N.S.										1			1
N.B.												1	1
P.Q.			1			4	4			1	2	3	15
Ont.			4	2	6		9	1	4	4	14	4	48
Man.						2					1		3
Sask.							1		1	1	1	1	5
Alta.						1				6			7
B.C.						1					5	5	11
TOTAL	0	0	5	2	6	9	14	1	5	13	23	14	92

TABLE 4. Population per dentist, 1961.

Province	Population
Newfoundland	10,929
Prince Edward Island	3,323
Nova Scotia	3,689
New Brunswick	5,000
Quebec	3,679
Ontario	2,423
Manitoba	3,143
Saskatchewan	4,643
Alberta	2,977
British Columbia	2,426
CANADA	3,037

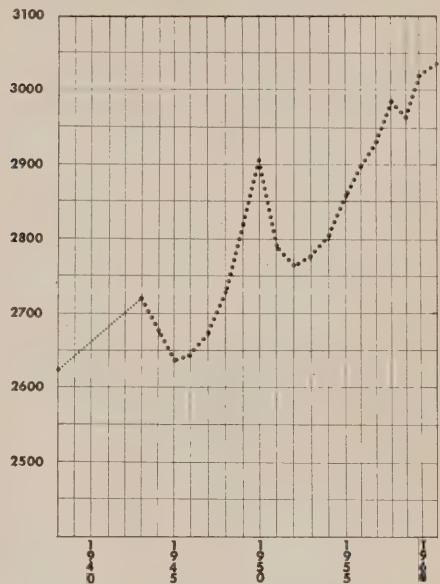
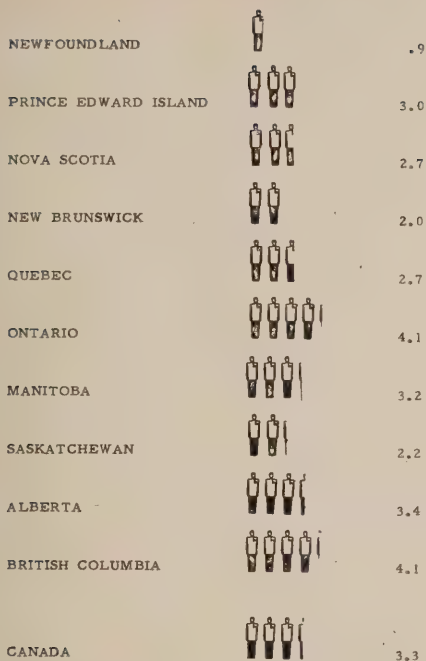


FIGURE 1

Population per dentist, Canada, 1938-1961

TABLE 5. Dentists per 100,000 population.

TABLE 6. Population per dentist in Canada, 1946 - 1961.

Year	Population per Dentist
1946	2,644
1951	2,792
1956	2,898
1961	3,037

TABLE 7. Increase in supply of dentists, 1938 - 1961 and 1951 - 1961.

Province	Increase Since 1938		Increase Since 1951	
	No.	Per cent	No.	Per cent
Newfoundland	23	121.1	21	100.0
Prince Edward Island	1	3.3	1	3.3
Nova Scotia	27	16.0	4	2.1
New Brunswick	10	9.1	14	13.2
Quebec	514	58.8	241	21.0
Ontario	581	30.1	410	19.5
Manitoba	35	13.9	27	10.4
Saskatchewan	—14	—6.7	—21	—9.7
Alberta	195	82.6	110	34.3
British Columbia	300	82.9	146	28.3
CANADA	1,672	39.9	953	19.4

TABLE 8. Full-time dental specialists, 1961.

Specialty	Number of Specialists in Province										
	Nfld.	P.E.I.	N.S.	N.B.	P.Q.	Ont.	Man.	Sask.	Alta.	B.C.	Total
Orthodontics	0	0	4	1	26	61	5	2	8	9	116
Oral Surgery	0	0	1	0	8	35	5	0	5	7	61
Periodontics	0	0	0	0	4	14	1	0	1	3	23
Paedodontics	0	0	0	0	0	6	2	0	3	8	19
TOTAL	0	0	5	1	38	116	13	2	17	27	219

TABLE 9. Dental hygienists, 1961

Province	Number Practising
Newfoundland	0
Prince Edward Island	2
Nova Scotia	5
New Brunswick	0
Quebec	0
Ontario	48
Manitoba	2
Saskatchewan	10
Alberta	3
British Columbia	4
TOTAL	74

TABLE 10. Dentists employed in health services, 1961.

	Nfld.	P.E.I.	N.S.	N.B.	P.Q.	Ont.	Man.	Sask.	Alta.	B.C.	Total
Dental Schools											
Full-time	0	0	5	0	17	15	6	0	7	0	50
Half-time	0	0	0	0	8	6	3	0	2	0	19
Hospital Service											
Full-time	1	0	3	2	6	19	1	2	3	7	44
Half-time	0	0	0	0	40	4	0	0	0	9	53
School Dental Service											
Full-time	0	0	1	3	15	30	3	0	3	1	56
Half-time	0	0	2	1	5	57	2	1	5	0	73
Public Health Service											
Full-time	2	2	2	2	12	10	4	1	3	27	65
Half-time	0	0	0	0	0	0	0	0	0	1	1
TOTAL											
Full-time	3	2	11	7	50	74	14	3	16	35	215
Half-time	0	0	2	1	53	67	5	1	7	10	146

Table 11: Dentists employed full-time by federal health departments, 1961.

National Defence	167
National Health and Welfare	21
Veterans Affairs	36
TOTAL	224

THE CANADIAN DENTAL ASSOCIATION

Official Notice of Annual Meeting

The Annual Meeting of the Board of Governors of the Canadian Dental Association will be held at the Bessborough Hotel in Saskatoon beginning at 9.30 A.M. on Wednesday, May 31, 1961 and continuing through Saturday, June 3, 1961.

Don W. Gullett, D.D.S.
Secretary
Canadian Dental Association

DENTISTRY IN THE NEWS

Canada and the Provinces

PRESIDENT VISITS WESTERN CANADA

Canadian Dental Association president J. P. Whyte, accompanied by secretary D. W. Gullett, addressed meetings of dental societies in western Canada starting February 25. The following centres were visited: February 25—Sudbury, February 27—Winnipeg, February 28—Regina, March 1—Saskatoon, March 2—Edmonton, March 6—Victoria, March 7—Vancouver, March 9—Calgary, and March 10—Lethbridge.

EXECUTIVE COUNCIL MEETS

Members of the Executive Council met at Association headquarters in Toronto, February 20-22. In attendance were president J. P. Whyte of Saskatoon; W. G. McIntosh, Toronto; James Zimmerman, Calgary; Rémy Langlois, Quebec; William Miller, Vancouver; M. V. J. Keenan, Sudbury; P. S. Christie, Halifax; treasurer, G. M. Dewis, Halifax; and secretary D. W. Gullett along with other Association staff members.

Because of the short interval between annual board meetings of 1960 in Ottawa and 1961 in Saskatoon, this was the only scheduled meeting of the Executive Council this winter.

1960 TRANSACTIONS MAILED

Transactions of the annual meeting of the Canadian Dental Association Board of Governors held in Ottawa last September have been mailed to all members of the Association.

One item of major interest is the report of a complete revision of Association by-laws. This is the first such revision in almost ten years. All members are urged to make themselves familiar with the business con-

ducted for them by the Association, as reported annually in the Transactions.

TV FILMLETS WELL RECEIVED

Letters have been received from several parts of Canada commenting favourably on television filmlets provided by the Canadian Dental Association.

Three 60-second "spots" were produced for the Association by Crawley Films Limited. Subjects are "the dentist", "dental research" and "dental health". Copies of the three filmlets have been sent to private television stations and the C.B.C. network. The C.D.A. Bureau of Public Information would appreciate hearing from any one who may have seen any of the filmlets in order to learn what stations find them useful.

"RECRUITMENT REPORTER" ISSUED

The first issue of a new C.D.A. publication, the "Recruitment Reporter", has been distributed. Designed particularly for dentists active in national, provincial and local recruitment committees, this is a newsletter-style publication.

The National Recruitment Committee authorized publication of the newsletter to keep dentists informed about recruitment activities and to provide suggestions of methods to stimulate the recruitment of high calibre students to dentistry.

ACCREDITATION OF HOSPITAL DENTAL SERVICES

The Hospital Services Committee of the Canadian Dental Association has on previous occasions expressed concern at the practice of the Joint Commission on Hospital Accreditation in assessing hospital dental services

and setting dental staff requirements without consultation with the dental profession. The Joint Commission on Hospital Accreditation is composed of representatives from the Canadian Medical Association and the Canadian Hospital Association but has no dental representation at present. The Hospital Services Committee of the Canadian Dental Association therefore invited the Joint Commission on Hospital Accreditation to join in developing a method for effecting dental liaison or representation on the Council. The Joint Commission accepted this proposal and invited representatives of the dental profession to attend the commission's next meeting. A. A. Antoni and W. J. Dunn have been named as representatives of the Canadian Dental Association and its Hospital Services Committee who will attend the next meeting of the commission.

The Hospital Services Committee is also preparing a brochure "Rules and Regulations Controlling Dental Staff Privileges in Hospitals."

ALBERTA

Alberta Recruits Auxiliaries. — Government health departments are actively seeking recruits for the new dental auxiliaries training program in Alberta, according to recent newspaper reports. The Alberta government is also offering financial support to successful applicants.

Training of dental auxiliaries in a new two-year course offered by the Faculty of Dentistry at the University of Alberta was authorized by legislation passed in 1960. The training program starts next fall and is open to high school graduates who have an average of 60 per cent in their Grade 12 subjects. Although the course outline says it is suitable particularly for women, both men and women may apply. The course content is similar to that of present dental hygienist training programs.

Successful applicants are eligible to receive \$75 a month subsistence allowance during both academic years plus additional allowances for tuition and books.

Graduate dental auxiliaries will have to work in areas designated by the government for two years. After the first two years of

employment they may seek work in any provincial health unit or municipal health department. Auxiliaries will not be available for employment in private dental offices.

Alberta Dental Association Attacked. — A newly formed body, "The Alberta League for Adequate Dental Care" is circulating a pamphlet attacking the Alberta Dental Association. The League has headquarters in Valhalla Centre in the Peace River area. A brief has been submitted to all members of the Alberta legislature in which it is claimed "several instances are related which prove that the Dental Association of America have instituted a restrictive policy that controls the number of dentists that may enter the profession". The brief also aims to break down "prejudice against the Missionary Training Program which seems to be rampant and is being encouraged by the dental faction especially."

Throughout the pamphlet there is a good deal of confusion between the dental profession in Canada and the United States. The claim that the Alberta Dental Association tried to prevent the training of dentists in Saskatchewan and British Columbia is untrue. Together with the Canadian Dental Association, the Alberta Dental Association has urged the necessity of opening a dental school in British Columbia. The Alberta Dental Association does not restrict the number of dentists practising in Alberta; it does, in fact, have a liberal policy which encourages dentists to come to that province. The University of Alberta assesses the qualifications of applicants for dental licensure in Alberta and the University is under direct control of the provincial government. The Alberta Dental Association itself is a creation of the provincial government and its by-laws must be approved by the Lieutenant Governor-in-Council before coming into force. So, too, is the dental auxiliary program which is also attacked by the Alberta League for Adequate Dental Care.

Lethbridge and District Dental Society. — The regular February, 1961 meeting of the Lethbridge and District Dental Society was held on February 13 and 14. Dr. G. Street, a prominent Calgary orthodontist reviewed the management of crossbites and serial extractions. Dr. G. Minty, a Calgary paedodontist, discussed child patient management. Out-of-town guests included R. B. Burgman of Blairmore, R. L. Falconer of Fort McLeod, R. D. Lamb of Taber, J. H. Snedden, A. W. Soklofske and R. A. Gray of Medicine Hat.

A plebiscite on the fluoridation of the Lethbridge water supply is to be held on

June 7. The society has passed a unanimous motion reaffirming its stand in favour of fluoridation.

Edmonton and District Dental Society.—Dr. W. G. McIntosh of the Faculty of Dentistry, University of Toronto was the guest speaker at an afternoon and evening meeting of the Edmonton and District Dental Society on February 7. The guest speaker was introduced by R. B. Cameron. His subject was Periodontics in General Practice. Dental students from the Faculty of Dentistry, University of Alberta were guests of the society.



H. R. Henderson, President of the British Columbia Dental Association leads the provincial association's convention program at Kelowna, May 4-6, 1961.

Central Alberta Dental Society. — Through the co-operation of the Faculty of Dentistry, University of Alberta, members of the society have benefited from an interesting series of lectures and clinical presentations during the current year.

R. L. Tegart, sessional lecturer in Endodontics gave a well illustrated lecture on this subject. A clinical team under D. R. Stewart, associate professor of Fixed Partial Denture Prosthesis, and assisted by R. A. Youdelis, G. A. Gibb and W. I. M. Steen, gave presentations on "Rubber Base Impressions in Crown and Bridge Prosthodontics" and "The Construction of Mouth Protectors for the Young Sportsman" on November 17, 1960.

At the January meeting, K. A. Burnham of Edmonton discussed the use of general anaesthesia in private dental practice. He suggested that dentists make greater use of general anaesthesia in the management of the reluctant child when proper facilities and the assistance of a qualified anaesthetist are available.

The annual "Ladies' Night" was under the able direction of C. H. Isbill.

gram include Dr. A. A. Antoni of Toronto who will lecture on oral surgery, and Dr. H. M. Worth of Victoria who will lecture on dental radiology. William Garrioch, graduate commerce student, at the University of British Columbia, who is conducting a time study on dental operations for the British Columbia Dental Association will present some of the findings of this study at the convention.

Vancouver's Home Talent Day.—This event, held at the Hotel Vancouver on February 4, was well attended. Four chairside clinical demonstrations were presented by closed circuit television with nine outlets. These included the Preparation of a Full Gold Crown and Impression Technique by Dr. M. Pottinger, the Washed Field Technique for Routine Scaling and Prophylaxis by Dr. C. Ames, Full Mouth Stannous Fluoride Application by Dr. G. Jinks and Miss Joan Sanders, R.D.H., and Gingivectomy with Mucous Membrane Resection by Drs. B. Marshall and R. Munn.

Other table and chairside demonstrations were presented by T. G. Parsons, R. K. Lindsay, C. W. Gardner, M. J. Waterman, R. I. Yorsh, A. M. Hayes, Wm. Alto and S. Margolese, W. M. Joiner, J. C. Martin, D. J. Yeo and H. W. Helm, L. W. Beamish, Wm. Scott, L. O. Lind and F. A. Mitchell, T. A. Vernon and D. A. MacDougall, T. E. Ramage, T. Cacchioni, J. R. Ingledew, H. Purdy and G. Creasy, E. J. Hyde, R. A. Port and W. D. McGinnis, C. Ames and J. E. Harrison. In charge of various phases of the program were R. Telford, P. Tobias, and J. C. Martin.

BRITISH COLUMBIA

B.C.D.A. Convention Scheduled for Kelowna.—The Okanagan will be the scene for the British Columbia Dental Association annual convention on May 4 to 6, 1961. Prominent essayists featured on the convention pro-



At a meeting of the Vancouver and District Dental Society, left to right, S. Margolese who introduced speaker; G. C. Hare of Toronto, essayist; J. H. Merrell, president; and A. E. Swanson, secretary.

Victoria and District Dental Society. — The last meeting for 1960 took the form of a combined meeting with the Upper Island Dental Society. Dr. C. Castaldi from the Department of Paedodontics, Faculty of Dentistry, University of Alberta reviewed various aspects of infant and child behaviour, prescription of fluorides, and dental anomalies in child patients. These discussions were supported by means of slides and tape recordings.

At the first meeting of the new year, the society was addressed by Dr. I. Stern from the University of Washington on "New Trends in General Dentistry".

Prince George Rotates Officers.—A new executive was recently elected by the Prince George and District Dental Society by the rotation system. J. McInnis succeeded W. Aitken as president. J. Thorsness is vice-president and A. S. Richardson is secretary.

The society is planning a series of radio and television programs on preventive dentistry as one of its main projects for the year. These programs are scheduled to begin this spring and it is hoped that they will benefit the large number of children

residing in Prince George and surrounding semi-isolated rural areas and at the same time prove beneficial from the standpoint of public relations.

B.C. College of Dental Surgeons. — Early in the new year representatives of the British Columbia College of Dental Surgeons presented a brief to the board of governors of the University of British Columbia. C. R. Hallman, D. J. Sutherland and L. W. Beamish, representing the College, were favourably received and, as a result, the University's board of governors appointed Mr. G. T. Cunningham and Mr. E. M. Gunderson as its representatives to meet with two representatives of the College for further consideration of the proposal to establish a dental school at the University.

Some dental technicians who have been dealing unlawfully with the public in the past but were refused registration under Division 10 of the Dental Technicians' Act because they did not meet some of the requirements of the Act, are commencing action to have themselves registered in order that they may legally deal with the public.

At the same time the Board of Examiners of the Dental Technicians' Act is attempting to close premises of technicians who were refused registration. The Council of the College is considering means of forcibly pointing out the incongruity which exists between the provisions of the Dentistry Act and the Dental Technicians Act.

Alterations have commenced on the third floor of the Medical-Dental Building in Vancouver which is to be occupied by the College, the British Columbia Dental Association and the Vancouver and District Dental Society. Occupancy is scheduled on or before April 1.

Concurrent improvement is being made to the space occupied by study clubs on the sixteenth floor of the Medical-Dental Building. Three units of dental equipment are being acquired and it is hoped that improved lighting and sound proofing will result in increased use of these facilities.

Milk Fluoridation Study.—At the request of the Greater Vancouver Metropolitan Health Committee, the executive of the British Columbia Dental Association gave approval to a study of fluorides in milk under the direction of Dr. D. J. Yeo, director of Dental Health Services in Vancouver.

British Columbia Dental Services Association.—It is proposed to seek incorporation of the British Columbia Dental Services Association as a provincial dental service corporation under the Societies Act. This arrangement would be similar to British Columbia's Medical Services Incorporated.

Before obtaining a certificate from the British Columbia Superintendent of Insurance, it was necessary to provide assurance that the proposed prepayment plan to be administered by British Columbia Dental Services Association would be viable and that the majority of the province's dentists would be willing to participate. It was also necessary to deposit \$5,000 with the Superintendent of Insurance.

NOVA SCOTIA

Halifax County Dental Society.—Dr. Garnet Colwell, professor of Physical Medicine, Dalhousie University, and consultant to the Nova Scotia Rehabilitation Centre addressed the regular meeting of the Halifax County Dental Society on February 15.

There is a misconception that crippled persons, even with training, do not perform tasks as efficiently as others, Dr. Colwell stated. This is incorrect because rehabilitated persons have a lower rate of absenteeism than others and frequently display greater loyalty toward their employer. Lack of basic education is the greatest handicap in finding employment for the crippled person. On the other hand, despite unemployment, many trades still seek trained help. Of more immediate concern in Canada is the inadequate level of education which fails to equip a substantial segment of the population for increasingly technical employment opportunities.

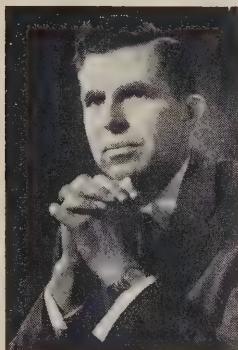
Dr. Colwell stressed the need for trained personnel in the fields of therapy and rehabilitation. He praised the valuable assistance of voluntary organizations which aid the crippled and contribute to welfare and research.

ONTARIO

Fluoridation Bill.—On March 2, Health Minister M. B. Dymond introduced in the legislature a bill providing for the fluoridation of municipal water supplies without a vote of the electors, but at the same time establishing machinery for such a vote. Under the bill the council of any municipality may fluoridate without a vote of the people. On the other hand, a council may at its discretion hold a vote of those eligible to cast ballots for the offices of mayor and reeve. Furthermore, a petition signed by the ten per cent of the electors is sufficient to make such a vote mandatory. A municipal council would be bound to act according to the majority's wishes. Special provisions are made where two or more communities are served by a common water system.

To force a vote in Metropolitan Toronto,

there would need to be a petition of 10 per cent of the persons on the voters' list of a majority of the constituent municipalities.



A. E. Histrop, president of the Academy of Dentistry, Toronto.

Academy of Dentistry, Toronto.—The Second Stated Meeting of the Academy of Dentistry, Toronto this year took the form of an all-day clinic on February 23 at the King Edward Sheraton Hotel, Toronto. The clinician was Dr. R. W. Phillips of Indiana University School of Dentistry, whose subject was "Evaluation of Newer Dental Materials and Factors Affecting Their Clinical Success". Dr. Phillips's presentation included an evaluation of rubber base and silicone impression materials, and factors which affect their accuracy, recent research with the amalgam restoration including mechanical devices, adaptation of various restorative materials, and the comparative ability of each to resist caries. Dr. Phillips also elaborated on the current status of self-curing resins in restorative and prosthetic dentistry, and reviewed the current status of the many new materials and techniques, emphasizing manipulative factors which affect their success and giving continual stress to clinical application.

On March 3 the Academy held its annual Dinner Dance at the Regency Towers Hotel where members and their wives enjoyed an extremely pleasant evening together.

At the Third and last Stated Meeting of the Academy of Dentistry, Toronto on March 23 held at the Faculty of Dentistry, University of Toronto, A. E. Histrop was installed as president for the year 1961-62. Other of-

ficers and councillors inducted to office at this meeting were—immediate past president, V. A. Herron; president-elect, J. H. Mullett; secretary, R. M. Grainger; treasurer, J. E. Carson McGowan; councillors—M. Cornish, G. M. Marshall, North Toronto; A. C. Manis, H. Canning, Central Toronto; J. R. Glenny, A. G. Brown, West Toronto; and M. G. Hardy, East Toronto.

QUEBEC

Montreal Dental Club.—The 63rd annual meeting of the Montreal Dental Club was held at the Queen Elizabeth Hotel, January 19, 1961, under the presidency of Dr. H. T. Oliver.

Following the presentation of the minutes of the 62nd annual meeting, the financial report, the report of the Insurance Committee, and a report on the activities of the Canadian Dental Association, the president announced that P. Harkness had been elected to membership in the Club. He reviewed the year's activities of the Club, making reference to the bulletin *News and Views*, cooperation with the Club's public relations adviser, and to the many individuals who had assisted him during the past year. He extended best wishes to the incoming executive.

The executive for the ensuing year comprises W. J. Johnston, president; F. O. Frederick, president-elect; H. T. Oliver, past president; R. G. Jones, secretary and G. D. Armstrong, treasurer. The board of directors includes J. D. Stewart, D. Munro, J. D. Fenwick, H. J. Smart, A. J. Schutz and D. A. Townsend.

The new president, Dr. W. J. Johnston, then assumed the chair. After introducing the new executive, he proposed that the practice of holding three combined meetings with the Mount Royal Dental Society and La Société Dentaire de Montréal be continued in 1961.

Montreal Endodontia Society.—The second meeting of the society was held on February 13, 1961. Following a brief business meeting, R. H. Lussier, the speaker for the evening discussed "Hypnosis in Endodontics". Reviewing the history of hypnosis, he

cited examples of its use by primitive man, by the ancient Chinese and Egyptians, and by the present-day Eskimo. "Many people still believe the hypnotist has a certain power over the patient, but this is false," Dr. Lussier stated. He continued: "The goal is to establish motivation and rapport and the prestige of the clinician will help in arriving at a stage where anaesthesia can be induced. By controlling anxiety, salivation and bleeding can be reduced." Dr. Lussier stressed that pre-medication is of no value in hypnosis because it reduces motivation.

Montreal Chapter, Alpha Omega Fraternity.—R. A. Grossman, M. Shevel and H. Greenwald were the speakers at the annual Dr. A. S. Solomon Memorial Evening on February 21, 1961.

Dr. Grossman spoke on "Root Perforations in Endodontics". Dr. Shevel presented a case report illustrating the "Correction of Severe Anterior Maxillary Protrusion by means of Radical Alveolectomy with Immediate Removable Partial Prosthesis." Dr. Greenwald discussed the use of "Copper Band Impression Techniques".

These annual meetings provide an opportunity for younger dentists to present scientific papers.

International Items

UNITED STATES

National Dental Laboratory Week.—For the first time in history, National Dental Laboratory Week will be observed from September 23 to 30, 1961. This week will be celebrated as part of the tenth anniversary of the National Association of Dental Laboratories, which is being observed this year, and will mark the "coming of age" of the ethical dental laboratories of the United States. During this time it is the plan of the members of the National Association of Dental Laboratories to wage an intensive campaign to make the members of the dental profession aware of the ethical dental laboratory as a fine, clean professional establishment to which the dentist can safely entrust an important part of his professional service to the patient.

According to NADL president H. E. Cushman, dental laboratories in all parts of the United States, whether they be members of NADL or not, are going to be invited to participate in the plans for a "clean up, paint up and dress up the laboratory" campaign in preparation for this very important week. The National Dental Laboratory Week will come just before the Annual Meeting of NADL in Chicago, October 3-7, 1961, at which the announcement of the new dental laboratory accreditation program being developed with the American Dental Association is expected to be presented.

In the ten years of its history, the National Association of Dental Laboratories has been building closer liaison with the dental profession, and this year hopes to mark the culmination of a great deal of work, planning and development which has included, in co-sponsorship with the American Dental Association, the national program of certification for dental laboratory technicians.

Members of the dental profession will be invited to visit their laboratory during "National Dental Laboratory Week".

URUGUAY

An International Dental Congress of Uruguay-Argentina has selected Montevideo, Uruguay, as site for its 1961 meeting. The event will take place November 12-19. Canadian Dental Association members are invited to attend and can obtain detailed information by writing the executive committee of the Congress, Av. Agraciada 1464 (P. 13) in Montevideo.

FÉDÉRATION DENTAIRE INTERNATIONALE

XIII International Dental Congress, Cologne, 1962.—The preliminary scientific program for the XIII International Dental Congress of the Fédération Dentaire Internationale, July 7 to 14, 1962 has been announced.

Monday, July 9: New findings of fundamental research regarding the origin of caries—Electronmicroscopic research, bacteriological research, and biochemical research.

Tuesday, July 10: Current problems of



Aerial view of Cologne. In the foreground are the Exhibition Grounds, site of the XIII International Dental Congress, 1962.

conservative dentistry—The treatment of the tooth with a sound pulp, pulp and root treatment, and tooth preservation and diseases of the supporting structures.

Wednesday, July 11: Prosthetic treatment in cases of incomplete dentition—The treatment of incomplete dentition with removable prostheses, and the treatment of incomplete dentition with fixed prostheses.

Thursday, July 12: Oral Surgery—Recent advances in oral surgery, surgical preparation of the jaw for prosthetic treatment, and bleeding in the oral cavity.

Friday, July 13: Orthodontics—The use of the functional biological growth potential in orthodontic treatment, cephalometric growth studies, orthodontic treatment for adults, the preventive treatment of diseases of the periodontium, and preventive treatment of arthropathy through orthodontic measures.

Round table discussions will be featured on Tuesday, July 10: "Should carious dentine be left at the base of the cavity?"; Wednesday, July 11: "Experiences with dentures with stress breakers"; and Friday, July 13: "The provision of early orthodontic treatment in the social care of children."

A number of social events, including several receptions, a concert of organ music in Cologne Cathedral, a banquet and a ball, visits to well-known places of interest and industrial concerns, excursions into the sur-



Cologne Cathedral with festival illumination.

roundings of Cologne, and a comprehensive ladies' program, featuring a fashion show, have already been planned. An attractive program of post-congress tours will also be available. An International Dental Trade Exhibit will also be held in conjunction with the Congress. Enquiries should be addressed to the Secretary General, Universitätsstrasse 73, Köln-Lindenthal, Germany.

Canadian Dental Schools

UNIVERSITÉ DE MONTRÉAL

Promotions and New Appointments.—Following the meeting of the Board of Governors of the Université de Montréal in November 1960, several promotions relating to the teaching staff of the Faculty of Dental Surgery have been effected.

Adolphe L'Archevêque has been named professor emeritus. Dr. L'Archevêque was professor of Radiology and head of the Department of Diagnosis from 1944 to 1960. He retired last May.

Zdenek Mézl has been appointed full professor in the Department of Dental Pathology. A graduate in medicine from the University of Prague in 1932, he served as a member of the teaching staff of the Stomatological Clinic at the University of Prague until 1949. From 1949 until 1952 Dr. Mézl served on the staff of the University of Groningen, Holland as a member in charge of the Department of Pathology. Coming to Canada in 1952, he was admitted to the Faculty of Dentistry, University of Alberta with advanced standing and obtained the degree D.D.S. in 1957. That year, he became associated with the staff of the Department of Dental Pathology at the Faculty of Dental Surgery, Université de Montréal. He is the author of two text books on oral pathology and publishes regularly in the field of oral pathology in French, English and German. Dr. Mézl is a member of the International Association of Dental Research.

Camille Patenaude, professor of Full Denture Prosthesis, graduated from the Université de Montréal in 1946. Dr. Patenaude has

served as clinician and associate professor in the department. He lectures and demonstrates on the use of dental materials to first and second-year students and also attends as clinical demonstrator in full denture prosthesis for third and fourth-year students. Dr. Patenaude is a member of the International Association of Dental Research.

Jean Fontaine, professor of Oral Diagnosis and Radiology, graduated from the Université de Montréal in 1945. He joined the Royal Canadian Dental Corps, serving overseas until 1946. Upon his return to Montreal he acted as demonstrator in the Department of Operative Dentistry from 1947 to 1950. From 1950 to 1951, Dr. Fontaine undertook graduate training in radiology and oral diagnosis at Columbia University, New York. Upon his return he was appointed associate professor of Oral Diagnosis and Radiology at the Université de Montréal. Dr. Fontaine has presented papers at numerous scientific meetings and has published widely.

Julien Bussi res, professor of Dental Anatomy and Histology, graduated in 1947 from the Université de Montréal. Dr. Bussi res attended postgraduate courses in histology at the same university during 1947 and 1948. He was appointed lecturer in anatomy and histology in 1947 and became an associate professor in 1952. He now teaches histology to dental students at the Faculty of Medicine and dental anatomy at the Faculty of Dental Surgery.

Antoine Raymond, professor in the Department of Oral Surgery, graduated from the Université de Montréal in 1946. He then interned for one year at Bellevue Hospital in New York City. In 1948 he was appointed half-time clinician in the Department of Oral Surgery of the Faculty of Dental Surgery, Université de Montréal. From 1950 to 1953, he was associate professor of Macroscopic Anatomy at the Faculty of Medicine of the Université de Montréal. He was appointed assistant professor of Local Anaesthesia in 1953. Dr. Raymond attended postgraduate courses in oral surgery in 1948, 1949 and 1950. He has presented numerous papers on local anaesthesia and oral surgery at scientific meetings in the province of Quebec. In 1958 Dr. Raymond participated in the clinical appraisal of Hexetidine in periodontics and minor oral surgery at the Northwestern University, Chicago.

Georges Perreault, assistant professor of Paedodontics, graduated from the Université

de Montréal in 1951. He then interned for a year at the Guggenheim Dental Clinic in New York City. Following further graduate training at the University of Illinois, Chicago, he was awarded the degree M.Sc. in 1954. He was the winner of the medal awarded by the Chicago Dental Society for the best essay submitted in 1954. That same year he returned to the Université de Montréal where he was appointed associate professor of Paedodontics in the Faculty of Dental Surgery. He is also a dental consultant at the Montreal Children's Hospital. Dr. Perreault has published numerous papers in the *Journal of Dental Research*, *Journal of the American Dental Association*, *Journal of the Canadian Dental Association*, and *Journal of Dentistry for Children*.

Certificates in Orthodontics Awarded. — In January 1961, the following graduate students of the Department of Orthodontics were awarded certificates: M. J. Crompton of Fredericton, New Brunswick; A. Vachon of Ottawa, Ontario; E. C. Eldon, M. O. Abdoney, H. N. Croxton, L. D. Dempsey, K. E. McCauley, J. A. Pittaway, and J. G. Zimbalatti, all from the United States; and R. R. Harris of Maracaibo, Venezuela.

Staff Notes.—On October 21, 1960, Dr. Jean Nadeau, director of the Department of Prosthetics of the Faculty of Dental Surgery presented a paper entitled "Cleft Palate Rehabilitation" before the American Academy of Maxillo-Facial Prosthesis. This paper demonstrated the retention and stabilization of a complete upper prosthesis with the aid of Pandel springs and a Lucite mucosa insert. Dr. Nadeau also exhibited a series of slides and photographs at the scientific exhibition of the 1960 Annual Meeting of the American Dental Association. Dr. Nadeau has been elected to the Board of Directors of the American Academy of Maxillo-Facial Prosthesis.

Orthodontics Department Announces Curriculum Changes.—Effective September 1960, the Department of Orthodontics of the Faculty of Dental Surgery has been offering two optional programs in orthodontics. A post-

graduate program leading to a certificate is intended for candidates who wish to specialize in this phase of dental practice. A graduate program leading to a Master of Science degree is intended to provide a foundation for clinical practice, teaching or research in this specialty. The first year of both programs is identical. However, the clinical work of candidates pursuing the graduate program is limited after the first year and they concentrate on a research project.

A certificate in orthodontics is offered following eighteen consecutive months of the postgraduate program. This program requires a minimum of twenty-four semester hours of which eighteen must deal with theoretical subjects.

The Master of Science degree may be earned following twenty-one consecutive months of the graduate program. This program requires a minimum of thirty semester hours including a minimum of six semester hours in research and a maximum of six semester hours of clinical work. The candidate must spend a minimum of forty weeks on a research project. The candidate who wishes to obtain the master's degree after having completed the certificate requirements, must register for one academic year and satisfactorily complete the additional requirements.

Royal Canadian Dental Corps

COURSE IN PUBLIC HEALTH DENTISTRY PRESENTED AT R.C.D.C. SCHOOL

Major D. H. Protheroe and Major D. H. Hillier, of the Directorate of Dental Services Staff, presented a course in public health dentistry at The R.C.D.C. School, Camp Borden on February 14-16 to senior R.C.D.C. and U.S. dental officers. The course, which included twenty-one lectures and seminars, was designed to demonstrate how public health principles can be applied to the operation of a military dental clinic and dealt briefly with elementary statistics, dental health education and preventive dentistry. Major Protheroe and Major Hillier are both graduates at the School of Public Health, University of Michigan.

COURSE ATTENDANCES

Lt.-Col. J. G. Butler and Major D. H. Hillier of Ottawa attended the Physicians' and Dentists' Indoctrination Course held at the Civil Defence College, Arnprior, Ontario on March 6-10.

The following dental officers have recently attended short postgraduate courses at Canadian and U.S. universities:

Major J. D. Bourque, Camp Valcartier, Quebec—Oral Surgery at the University of Michigan, Ann Arbor, Michigan.

Major H. R. Kettys, Currie Barracks, Calgary—Crown and Bridge Prosthodontics at the University of Michigan.

Captain W. A. Sugars, R.C.A.F. Station, St. Hubert, Quebec—Radiology at the University of Toronto.

Major H. E. McKenna, 25 C.O.D., Montreal, Quebec, attended a five-day course in Periodontics at the U.S. Navy Dental School, Bethesda, Maryland, in February.

Public Health

FLUORIDATION VOTED IN SASKATCHEWAN AND YUKON

In a plebiscite conducted in November, 1960, residents of the town of Rouleau, 32 miles

south-west of Regina, voted strongly in favour of water fluoridation. Fourteen towns and cities in Saskatchewan now fluoridate their water. Fluoride tablets are supplied free of charge by the Department of Public Health on a one-a-day basis for preschool children in areas where no communal water supply is available.

Equipment to fluoridate city water has been ordered for Whitehorse, Yukon Territory and should be installed within a few months. Fluoridation was approved by a civic plebiscite.

FLUORIDES REQUIRE PRESCRIPTION IN BRITISH COLUMBIA

The Council of the Pharmaceutical Association of British Columbia, in consultation with the British Columbia College of Dental Surgeons, has decided to restrict the sale of fluorides. Their resolution was forwarded to the Lieutenant Governor-in-Council and the measure was approved by Order-in-Council No. 2875.

Effective immediately, therefore, fluoride preparations for oral or topical use (except in dentifrices) will be available to the general public only on a prescription basis.

Dental Publications of Canada

The Royal Canadian Dental Corps Quarterly is published four times a year by authority of the Director General of Dental Service, Royal Canadian Dental Corps. The "Quarterly" circulates information of interest to dental personnel of the Canadian Armed Forces. The editorial board comprises Colonel G. B. Shillington, Lieutenant-Colonel J. G. Butler and Major D. H. Protheroe.

BOOK REVIEWS

'Noyes' Oral Histology and Embryology

Edited and revised by: Isaac Schour.
Published by: The Macmillan Co. of Canada Ltd., Toronto, 1960. Ed. 8.
Pages: 440. Price: \$11.50.

In preparing the eighth edition, the original plan of Dr. Frederick B. Noyes, to keep the book a simple and straightforward statement of current conceptions of the structure and functions of the tissues has been followed. Three new coloured plates and forty new figures and illustrations have been added to replace old illustrations and to demonstrate new findings. Six tables have been included to increase the clarity of the text and a new chapter on the temporomandibular joint has been added. In the descriptive text, findings made possible by electron microscopy, histochemistry and other recent developments in biological and physical methods have been included.

As a student text this book has much to offer. The first chapter, Introduction to Embryology, is a valuable link with other fields of study. The organization of and the detail in the sections on the histology of the oral tissues are good. The photomicrographs are adequate and the diagrams and tables are excellent. The student will find the numerous challenges to more research on the epithelial attachment, accessory lamina, lymphatics and the influence of Hertwig's sheath on cementum, both frank and stimulating.

On the other hand he will find confusion in the terminology used in the descriptions of the terminal bars of ameloblasts, normal and abnormal striae of Retzius in relation to perikymata, and the mineralization and maturation of enamel. There is also some doubt as to the wisdom of including in a text on oral histology and embryology, chapters on Lymphatics of the Oral Region, Dental Caries and The Relationship of Histological Structure to Operative Dentistry. These topics are generally treated in greater detail in other courses. The final chapter on laboratory exercises will be mainly of interest to instructors in dental histology courses.

There is much more justification for the inclusion of the chapters on Comparative Dental Histology and the excellent chapter on Experimental Dental Histology. The student will find these interesting and valuable in increasing his ability to understand research papers.

The dental practitioner will appreciate to a much greater extent, the efforts that have been made at clinical correlation. He should also find the fringe chapters useful in orienting him to the subject. The biological approach to the interpretation of what one sees in the microscope will also make this book a valuable contributor to his understanding of the tissues with which he must work.

K. A. McMurchy.

Introduction to Dental Anatomy

Prepared by: J. H. Scott and N. B. B. Symons.

Published by: The Macmillan Co. of Canada Ltd., for E. & S. Livingstone Ltd., Edinburgh & London, 1961. Ed. 3.

Pages: 388. Illustrated. Price: \$7.65.

This edition is an improved, and therefore even more useful textbook for first-year dental students, combining as it does the fields of tooth morphology, oral histology, and comparative dental anatomy.

The authors have considerably expanded and modified the second (1958) edition. Many new photographs, photomicrographs, and line drawings have been added as illustrations. The sections most expanded are those dealing with the function of the oral cavity, and tooth form. The latter section has been wisely enlarged, although as pointed out by the authors, it still contains only the basic, essential facts about tooth anatomy. Students are expected to learn details from a study of the teeth themselves. With this philosophy of teaching in dental anatomy, I am in complete accord.

Other parts of the text have been modified and brought up to date in line with the more recent research findings, e.g. the section on the mineralization of enamel.

While some areas of the text are still not as complete as one might desire, (e.g. the section on cementum), this book is a well-written, well-illustrated, useful basic textbook for the dental student — particularly valuable because of the combination of related subjects under one cover.

K. J. Paynter.

Accepted Dental Remedies 1961

Prepared by: Council on Dental Therapeutics of the A.D.A.

Published by: The American Dental Association, Chicago, 1961. Ed. 26.

Pages: 230. Price: \$3.00.

The yearly revised edition of Accepted Dental Remedies is now available. This is the reference book for all therapeutic agents used in dentistry other than dental materials. It is an exceptional book in that it not only gives a guide to safety and dosage, but also evaluates the usefulness of a particular remedy.

There is useful information in regard to the taking of a medical history of the patient and in regard to the significance of medicines being taken by the patient in the dentist's diagnosis and treatment plan. The approach to the subject matter shows an appreciation of the value of treating the patient as a whole and is particularly evident in the chapter on the treatment of emergency problems.

This is a book which should be in every dental office since there is no substitute.

C. Reynolds.

Synopsis of Pathology

Prepared by: W. A. D. Anderson.

Published by: The C. V. Mosby Co., St. Louis, 1960. Ed. 5.

Pages: 838. Illustrated. Price: \$9.25.

The fifth edition of Synopsis of Pathology is a continuation of a valuable book of reference of general pathology.

As stated in the preface its "objective is a concise but comprehensive presentation of pathology." This role it fills excellently, as it is not intended to take the place of the more complete texts, but serves as an important book for reference.

Because of the advances in medical research and a changing pattern of diseases and their incidence this fifth edition was felt to be a necessary revision of the previous editions.

It is a complete text, well printed and well illustrated, with 414 text illustrations and 4 colour plates. A wealth of information is contained in this compact and comprehensive text.

A. G. Racey.

Basic Periodontology

Prepared by: A. Bryan Wade.

Published by: The Macmillan Co. of Canada Ltd., for John Wright and Sons, Bristol, England, 1960.

Pages: 303. Illustrated. Price: \$8.50.

There has been a need for some time past for a book of reasonable size on periodontology, both for undergraduate students and practitioners. For this reason alone this book is a welcome addition, and can be strongly recommended to the undergraduate student in any Canadian dental school.

The author has attempted a new approach to the compilation of a textbook on a clinical subject. It is divided into four parts: Fundamentals, Health, Disease and Prevention. By doing this he has been forced into a certain amount of repetition. This is unfortunate and in some cases, as for example with the problem of occlusion, adds confusion to a subject already renowned for its complexity.

The chapter on diagnosis stands out for special comment. No book on dentistry written in the English language has such a concise, well written and delightfully clear exposition on the art of taking a history, carrying out a clinical examination and making a diagnosis. To the author's credit, this has been achieved without charts, tables and diagrams. Quite correctly the author designates radiographic examination, study models, etc., as additional investigations to be used in their proper place and at the appropriate time. No dental student should graduate without reading this chapter again and again until he understands it thoroughly. Also, all teachers of clinical dentistry would do well to read, learn, and inwardly digest this chapter as here is the key to dentistry, not just periodontology.

The quality of the illustrations is high. They are of an economic size and on the whole illustrate their point extremely well. One wonders, however, whether black and white drawings could not have been used more often to advantage. The necessity for such illustrations as Figs. 177-179, showing finger positions of the non-operating hand whilst scaling, is questionable.

There are no references. The author has done this deliberately so as to make the text available at a reasonable price. Whilst deploring the habit of long and often irrelevant lists of references, the reviewer would like to have seen a few relevant ones in the early chapters where controversial views are known to exist.

Has the author achieved his object of presenting a basic approach to clinical periodontology? The answer most certainly is Yes.

A great deal of material has been condensed into the space of three hundred pages. Much of this the student will need to explore further in other books such as those dealing with oral pathology and oral medicine. This is as it should be because the clinical application of much of these two subjects is periodontology. This book should be owned by the student to use at all times

in conjunction with his reading in all the other aspects of clinical dentistry.

Have the publishers achieved their object? Yes and No. The book is a pleasant size to handle, the illustrations with few exceptions are good, the paper and binding are of a high quality; however the price is still high for a book which should have a very wide sale.

J. R. Trott.

THE LIBRARY

Additions

ADRIANI, J. The pharmacology of anesthetic drugs. 4th ed. Springfield, Thomas, 1960. 232p. illus. \$12.00

DENTAL DIGEST, Inc. Visual education in dentistry. Pittsburgh, Dental Digest, Inc. 30 charts. \$1.50

DILLING, W. J. Clinical pharmacology. 20th ed. rev. by Stanley Alstead. London, Cassell, 1960. 860p. \$5.40

GOULDING, R. Handbook of dental pharmacology and therapeutics. London, William Heinemann Medical Books Ltd. 199p. 1960. \$2.70

GRUNDY, F. Preventive medicine and public health. London, H. K. Lewis & Co., Ltd., 1960. 316p. illus. \$4.25

HEIN, F. V. ed. Fit to teach. Washington, American Association for Health, Physical Education and Recreation, 1957. 249p. illus. \$3.50

INGLIS, J. McN. — CAMPKIN, V. General anaesthesia for dentistry. London, Edward Arnold (Publishers) Ltd., 1960. 88p. \$1.80

JENKINS, G. N. The physiology of the mouth. 2d ed. Oxford, Blackwell Scientific Publications, 1960. 355p. illus. \$10.75

KENNEDY, A. C. Essentials of medicine for dental students. Edinburgh, Livingstone, 1960. 272p. illus. \$4.25

LEVISON, H. Textbook for dental nurses. Oxford, Blackwell Scientific Publications, 1960. 140p. illus. \$4.75

MCDONALD, R. E. Management of rampant dental caries in children. (Practical Dental Monograph, January 1961.) 32p. illus.

RUCH, T. C.—FULTON, J. F. Medical physiology and biophysics. Philadelphia, Saunders, 1960. 1232p. illus. \$16.00

SCOTT, J. H. — SYMONS, N. B. B. Introduction to dental anatomy. 3rd ed. Edinburgh, Livingstone Ltd., 1961. 388p. illus. \$7.65

STOLL, F. A. Dental health education. 2nd ed. Philadelphia, Lea & Febiger, 1960. 253p. \$5.50

TRANSACTIONS OF THE ROYAL SCHOOLS OF DENTISTRY, STOCKHOLM AND UMEA. No. 5, 1960. 59p. illus.

WUEHRMANN, A. H. Radiation protection and dentistry. St. Louis, Mosby, 1960. 238p. illus. \$6.50

IN MEMORIAM

Alan Lipsey Church — Dr. Alan Lipsey Church of Carberry, Manitoba, died on January 21, 1961. He was 66.

Dr. Church was born in Ottawa, Ontario and graduated from the Royal College of Dental Surgeons of Ontario in 1910. He practised in Brandon and Carberry, Manitoba.

Surviving are his wife, Rena; four daughters, Mrs. J. Isbister, Mrs. W. Simpson, Mrs. R. G. Heath, and Miss Rena Church; one son, Alan; and ten grandchildren.

Frederick Temple Knight — Dr. Frederick Temple Knight of St. Thomas, Ontario, died on July 17, 1960.

Dr. Knight graduated from the Royal College of Dental Surgeons of Ontario in 1903 and practised in Toronto until 1943.

During World War II Dr. Knight volunteered his services to help the war effort.

Surviving are his wife, Grace; a daughter, Mrs. M. F. Harper; and two grandchildren.

John Edison Rundle — Dr. John Edison Rundle of Vancouver, B.C., died on February 10, 1961. He was 74.

Dr. Rundle was born in Dundalk, Ontario. He graduated from the Chicago College of Dental Surgery in 1908 and practised in Moose Jaw, Saskatchewan and Selkirk, Manitoba before moving to Vancouver.

Dr. Rundle is survived by his wife, Irene; a daughter, Mrs. H. C. Main; and eight sisters, Mrs. A. R. Trott, Mrs. W. R. Campbell, Mrs. W. C. Lawson, Mrs. W. G. Thomas, Mrs. L. Heaton, Mrs. O. V. Jewitt, Mrs. H. Body, and Mrs. L. Pidgeon.

Emile Beaulieu — Dr. Emile Beaulieu of Quebec, died recently.

He was born in Trois-Pistoles, P.Q. and graduated from the Université de Montréal in 1917.

Charles C. Rowe — Dr. Charles C. Rowe of Regina, Saskatchewan, died on February 22. He was 94.

Dr. Rowe was born in Ontario. He graduated in dentistry in 1898 and moved to Regina in 1903. He practised there until his retirement in 1950. Two years after moving to Saskatchewan, Dr. Rowe was elected to the council of the board of the College of Dental Surgeons of that province. Along with the late Dr. W. D. Cowan, president of the council, he was mainly responsible for many of the dental regulations in force in Saskatchewan, and organized several dental societies in the province.

John Allan McDonald — Dr. John Allan McDonald of Ripley, Ontario, died on March 1. He was 62.

Dr. McDonald was born in Ripley and received his early education there. He graduated from the Faculty of Dentistry, University of Toronto in 1928 and set up practice in Stratford, Ontario. Dr. McDonald practised in Stratford until 1932 when he withdrew from active practice until 1937. In 1937 he moved to Ripley and opened a practice. From 1930 to 1932 Dr. McDonald was secretary of the Stratford Dental Society.

Surviving are his wife, Mary; a son, John; three brothers, Norman, Murdock and Donnie; and a sister, Mrs. K. Pierce.

CONVENTION SUPPLEMENT

Joint Meeting

THE CANADIAN DENTAL ASSOCIATION
and
THE WESTERN CANADA DENTAL SOCIETY

June 4-7, 1961

Bessborough Hotel, Saskatoon, Saskatchewan



Photograph Courtesy C.N.R.

BESSBOROUGH HOTEL, SASKATOON.

CONVENTION

Sunday, June 4, 1961

- 9.00 A.M. REGISTRATION
- 9.15 A.M. ORAL SURGERY SECTION ESSAY
Dr. L. O. Bishop
- 10.30 A.M. ORTHODONTIC SECTION ESSAY
Dr. W. L. Wylie: Cephalometrics
- 11.15 A.M. ORAL SURGERY SECTION ESSAY
Dr. J. Passalis: Hospital Procedure for Oral Surgery and Ridge Preparation
- 1.30 P.M. ORAL SURGERY SECTION ESSAY
Dr. L. O. Bishop
- 2.00 P.M. ORTHODONTIC SECTION — ANNUAL BUSINESS MEETING
- 3.00 P.M. ORAL SURGERY SECTION ESSAY
Dr. R. S. Locke: Halothane Anaesthesia
- 3.00 P.M. DENTISTRY FOR CHILDREN SECTION — EXECUTIVE COUNCIL MEETING
- 4.00 P.M. ORAL SURGERY SECTION ESSAY
Dr. R. K. Lindsay: Radiation Necrosis of the Teeth and Jaws
- 5.00 P.M. ORAL SURGERY SECTION — ANNUAL BUSINESS MEETING
- 8.30 P.M. SOIREE — BESSBOROUGH HOTEL

Monday, June 5, 1961

- 8.30 A.M. REGISTRATION
- 9.00 A.M. OPENING CEREMONIES — ADAM BALLROOM
- 9.30 A.M. ORTHODONTIC SECTION ESSAY
Dr. M. M. Stoner: Continuous Force Application
- 9.30 A.M. ESSAY
Dr. G. F. McGee: Prosthodontics
- 10.50 A.M. ESSAY
Dr. A. Elfenbaum: Oral Diagnosis
- 12.15 P.M. CANADIAN DENTAL ASSOCIATION LUNCHEON — BANQUET ROOM
- 2.30 P.M. GRIEVE MEMORIAL LECTURE
Dr. W. L. Wylie: A Reappraisal of the Orthodontist as a Specialist
- 3.50 P.M. ESSAY
Dr. L. O. Bishop: Oral Surgery
- 3.30 P.M. ORTHODONTIC SECTION ESSAY
Dr. M. M. Stoner: Continuous Force Application
- 7.00 P.M. OUTDOOR BARBECUE — HOEDOWN — GOOD FELLOWSHIP

PROGRAM

Tuesday, June 6, 1961

- 8.30 A.M. REGISTRATION
- 9.00 A.M. ORTHODONTIC SECTION ESSAY
Dr. M. M. Stoner, Continuous Force Application
- 9.00 A.M. ESSAY
Dr. G. F. McGee: Prosthodontics
- 10.15 A.M. ESSAY
Dr. A. Elfenbaum: Oral Diagnosis
- 12.00 P.M. PROVINCE OF SASKATCHEWAN LUNCHEON
Guest Speaker: The Honourable T. C. Douglas,
Premier of Saskatchewan
- 2.00 P.M. ORTHODONTIC SECTION ESSAY
Dr. M. M. Stoner: Continuous Force Application
- 2-5 P.M. SCIENTIFIC DISPLAYS, TABLE DEMONSTRATIONS — ADAM
BALLROOM
- 6.00 P.M. CLASS REUNIONS
- 6.00 P.M. ROYAL CANADIAN DENTAL CORPS RECEPTION
- 6.50 P.M. DINNER MEETING OF THE HOUSE OF DELEGATES,
COLLEGE OF DENTAL SURGEONS OF SASKATCHEWAN

Wednesday, June 7, 1961

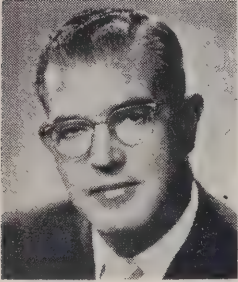
- 9.00 A.M. ESSAY
Dr. L. A. Bishop: Oral Surgery
- 10.30 A.M. ESSAY
Dr. G. F. McKee: Prosthodontics
- 12.00 P.M. WESTERN CANADA DENTAL SOCIETY LUNCHEON
Round Table Discussions Moderated by the Clinicians
- 2.15 P.M. ESSAY
Dr. A. Elfenbaum: Oral Diagnosis
- 3.45 P.M. ESSAY
Dr. L. O. Bishop: Oral Surgery
- 6.00 P.M. SOCIAL AND COCKTAIL — ADAM BALLROOM
- 7.00 P.M. C.D.A. PRESIDENT'S BANQUET
- 9.00 P.M. C.D.A. PRESIDENT'S BALL

ART EXHIBIT: Open Daily 9.30 A.M. to 4.30 P.M.

COMMERCIAL EXHIBITS: Open daily 8.30 A.M. to 5.30 P.M.

GOLF: Play will take place at participants' own convenience.

CONVENTION



Lyall O. Bishop, D.D.S., F.A.C.D., F.I.C.D.

Clinical instructor in Oral Surgery, College of Physicians and Surgeons, San Francisco. Diplomate of the American Board of Oral Surgery. Consultant to the United States Naval Dental Corps, Air Force Dental Corps and Veterans' Administration. Past president of the American Society of Oral Surgeons.

SUBJECT: *Oral Surgery for the General Practitioner.*

SYNOPSIS: *The clinician will discuss diagnosis, pre-medication, post-medication, anaesthesia and operative procedures.*

George Franklin McGee, D.D.S., F.A.C.D.

Associate professor of Denture Prosthesis at the School of Dentistry, University of California, San Francisco. Past president of the Pacific Coast Society of Prosthodontists. Author of several published original articles. Past essayist at dental meetings in North America, Europe and Hawaii.

SUBJECT: *Practical Impression Technique, Natural Tooth Placement and Base Contour in Full Denture Construction and Vertical Dimension.*



Wendell L. Wylie, D.D.S., M.S., F.A.C.D.

Professor of Orthodontics and assistant dean, School of Dentistry, University of California, San Francisco. Former editor-in-chief of the *Angle Orthodontist*. Member of the advisory editorial board of the *Journal of Dental Research*. A director of the American Board of Orthodontics. Member of the board of scientific counsellors, National Institute of Dental Research, Washington.

THE GRIEVE MEMORIAL LECTURE: *"A Reappraisal of the Orthodontist as a Specialist"*



ESSAYISTS

Arthur Elfenbaum, D.D.S.

Professor of Diagnosis and chairman of the Department, Northwestern University Dental School, Chicago. Chief of staff in the Dental Clinic of the Research and Educational Hospitals. Consultant in Diagnosis and Treatment Planning at the Dental Training Centre of the Chicago Veterans' Administration Hospital. Private practice limited to consultation for dentists and physicians in diagnosis, radiographic interpretation and treatment planning in dentistry.

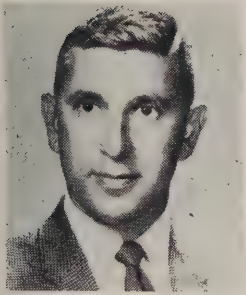


SUBJECTS: 1. *Diagnosis, the Key to Practice-Building.*
2. *Oral Changes in Differential Diagnosis.*

Morris Stoner, D.D.S., M.S.

Clinical professor of Orthodontics in the Graduate Department, University of Indiana School of Dentistry. Diplomate of the American Board of Orthodontics. Instructor at the Charles H. Tweed Foundation for Orthodontic Research. Member of the International Association for Dental Research, the Edward H. Angle Society and the Great Lakes Society of Orthodontists. Dr. Stoner is sponsored by the Orthodontic Section of the Canadian Dental Association.

SUBJECT: *A Course in Clinical Orthodontics.*



The Joint Meeting of the Canadian Dental Association and the Western Canada Dental Society follows immediately after the opening of the new building of the Faculty of Dentistry, University of Alberta in Edmonton. Members of the dental profession are cordially invited to attend both functions.

THE CANADIAN DENTAL NURSES' AND ASSISTANTS' ASSOCIATION

joint meeting with

THE WESTERN CANADA DENTAL NURSES' AND ASSISTANTS' ASSOCIATION

June 4 - 7, 1961

PROGRAM

Sunday, June 4, 1961

2.00 P.M.	W.C.D.N.A.A. — House of Delegates Meeting
3.00 P.M.	C.D.N.A.A. — Board of Governors Meeting
5.00 P.M.	S.D.N.A.A. — House of Delegates Meeting
6.00 P.M.	Registration — Banquet Hall Foyer
8.30 P.M.	Soiree and Reception — Ball Room

Monday, June 5, 1961

8.30 A.M.	Registration
9.45 A.M.	Opening Exercises — Salon 2 and 3, Bessborough Hotel
11.00 A.M.	Dr. R. G. Ellis — Solarium, Medical Arts Building Subject — The Responsibility of Dental Nurses and Assistants in Relation to the Dental Manpower Situation in Canada.
12.30 P.M.	Luncheon — Salon 5 Chairman — Miss Kay Whittington, president, S.D.N.A.A.
2.15 P.M.	Lt.-Col. C. E. Purdy — Solarium, Medical Arts Building Subject — Scientific Facts of Interest to the Dental Nurses
3.00 P.M.	W.C.D.N.A.A. — General Business Meeting — Solarium, Medical Arts Building
4.00 P.M.	S.D.N.A.A. — General Business Meeting — Solarium, Medical Arts Building
4.45 P.M.	C.D.N.A.A. — Delegates Meeting — Solarium, Medical Arts Building
6.30 P.M.	Transportation arrangement for Barbecue—Bessborough Hotel, ground floor
7.00 P.M.	Outdoor Barbecue and Square Dancing

Tuesday, June 6, 1961

9.00 A.M.	Dr. L. O. Bishop — Solarium, Medical Arts Building Subject — The Role of the Dental Nurse and Dental Assistant in Dental Health Education
10.30 A.M.	C.D.N.A.A. — General Business Meeting — Solarium, Medical Arts Building
11.30 A.M.	Exhibits — Leisure Time
12.30 P.M.	Luncheon — Elite Blue Room
3.00 P.M.	Table Demonstrations and Displays
6.00 P.M.	Informal Cocktail Hour — Prairie Room, Bessborough Hotel
7.00 P.M.	Banquet — Honouring Presidents — Banquet Hall
9.30 P.M.	Social Hour

Wednesday, June 7, 1961

9.00 A.M.	Mr. Blonais — Salon 5 Subject — Handpiece Care
10.30 A.M.	Dr. A. Elfenbaum — Salon 5 Subject — The Dental Nurse and Assistant in a Diagnostic Program
12.00 P.M.	Luncheon — where you please
2.00 P.M.	Installation of Officers — Salon 5 C.D.N.A.A.; W.C.D.N.A.A.; S.D.N.A.A.
3.30 P.M.	Farewell Buffet — Salon 5

EVENTS FOR LADIES

Sunday, June 4, 1961

8.30 P.M.

SOIREE

Monday, June 5, 1961

10.00 A.M.

COFFEE PARTY — Mrs. F. A. Fernet
followed by

CHOICE OF TOURS — Mrs. R. V. Little

(a) University of Saskatchewan

(b) Western Development Museum

7.00 P.M.

OUTDOOR BARBEQUE

Tuesday, June 6, 1961

12.00 P.M.

PROVINCE OF SASKATCHEWAN LUNCHEON

Guest Speaker: The Honourable T. C. Douglas,
Premier of Saskatchewan.

Wednesday, June 7, 1961

12.00 P.M.

LUNCHEON — Mrs. G. R. Gelmon
followed by

FASHION SHOW — Mrs. J. J. Schachter

SOCIAL AND COCKTAIL HOUR — ADAM BALLROOM

6.00 P.M.

PRESIDENT'S BANQUET

7.00 P.M.

PRESIDENT'S BALL

9.00 P.M.

REDUCED RAILWAY FARES AVAILABLE

Authorization has been granted by the Canadian Passenger Association for reduced railway fares on the Identification Certificate Plan for the Saskatoon meeting.

Authorized dates for the start of travel to Saskatoon are as follows:

From stations in Newfoundland

May 21 to 30 inclusive, 1961.

From all stations west of and
including, Port Arthur and
Armstrong, Ontario

May 27 to June 5 inclusive, 1961.

From all stations east of Port
Arthur and Armstrong, Ontario
(except Newfoundland)

May 24 to June 2 inclusive, 1961.

C.D.A. members and their dependent families, on the presentation of Identification Certificates (one per family) are entitled to purchase fare round-trip tickets to Saskatoon on the authorized dates. This reduced fare plan is also open to members of the Canadian Dental Nurses' and Assistants' Association.

Identification Certificates may be obtained from the Secretary, Canadian Dental Association, 234 St. George Street, Toronto 5, Ontario.

REGISTRATION FORM

Annual Meeting
Canadian Dental Association
Western Canada Dental Society

Dr. Arthur Singer,
414 Canada Building,
Saskatoon, Saskatchewan.

Saskatoon, Saskatchewan,
June 4-7, 1961.

NAME
ADDRESS
CITY PROVINCE
WIFE'S NAME
Golf Yes No

REGISTRATION FEE

Single \$50.00
Wife Free
Includes the President's Dinner and
all Official Functions.

HOUSING ACCOMMODATION APPLICATION

Bessborough Hotel	Single.....	Twin Beds.....	Double.....	\$7.50 - \$13.00
King George Hotel	Single.....	Twin Beds.....	Double.....	6.50 - 12.00
Senator Hotel	Single.....	Twin Beds.....	Double.....	6.50 - 8.50
Parktown Motor Hotel	Single.....	Twin Beds.....		8.00 - 11.00

**REQUESTS FOR ACCOMMODATION MUST BE ACCOMPANIED BY
REGISTRATION FEE**

See Saskatoon in 1961 by attending the Combined Convention of the CANADIAN DENTAL ASSOCIATION and the WESTERN CANADA DENTAL SOCIETY.

Make plans for unexcelled fishing for Lake Trout, Walleye Pike, and Arctic Grayling in Northern Saskatchewan following the convention. Play golf on excellent courses. Bring your camera to photograph historical sites and scenic beauty. Visit the South Saskatchewan River Dam Development.

FUN FOR THE WHOLE FAMILY

For further Tourist Information, contact Dr. S. R. Gelmon,
519 Medical Arts Building,
Saskatoon, Saskatchewan.

Advanced and early registration will be very much appreciated and will be most advantageous to the registrant.

CANADIAN DENTAL ASSOCIATION RETIREMENT SAVINGS PLAN

Statement of Unit Valuations as of February 28, 1961

GOVERNMENT BOND FUND

Investment at market value	\$124,068.24
Accrued income (interest)	576.09
Cash on deposit at interest	78.40
TOTAL	\$124,662.73
Less: Administration fee— $\frac{1}{8}$ of 1% of \$124,662.73	155.82
MARKET VALUE OF FUND	\$124,506.91
Units outstanding	11,570.798
UNIT VALUE OF FUND	\$ 10.760

CORPORATE BOND FUND

Investment at market value	\$223,617.30
Accrued income (interest)	953.06
Cash on deposit at interest	.07 (DR)
TOTAL	\$224,570.29
Less: Administration fee— $\frac{1}{8}$ of 1% of \$224,570.29	280.72
MARKET VALUE OF FUND	\$224,289.57
Units outstanding	19,750.129
UNIT VALUE OF FUND	\$ 11.356

COMMON STOCK FUND

Investment at market value	\$446,927.85
Accrued income (interest)	—
Cash on deposit at interest	475.02 (DR)
TOTAL	\$446,452.83
Less: Administration fee— $\frac{1}{8}$ of 1% of \$446,452.83	558.06
MARKET VALUE OF FUND	\$445,894.77
Units outstanding	33,247.168
UNIT VALUE OF FUND	\$ 13.411

Trustee: The Royal Trust Company.

Information about the C.D.A. Retirement Savings Plan is available from Mr. J. T. Staddon, 2249 Yonge St., Toronto 7, Ont. Telephone HU. 1-5731.

**The Canadian Society of Dentistry for Children
Annual Convention, Saturday May 20, 1961
King Edward Sheraton Hotel, Toronto.**

- Harold Adelstone, D.D.S. Essayist: Practice Management
Dr. Adelstone is head of the Department of Paedodontics, New York University.
- Carl Williams, M.A., Ph.D. Luncheon Speaker: Education in a Changing Society
Dr. Williams is director, Division of University Extension, University of Toronto.
- E. W. McHenry, Ph.D. Essayist: Nutrition and Fluoridation
Dr. McHenry is professor and head of the Department of Nutrition, School of Hygiene, University of Toronto.
- D. G. Woodside, D.D.S. Essayist: Timed Extraction as an Interceptive Treatment Procedure
Dr. Woodside is associate professor, Department of Orthodontics, University of Toronto.

There will also be three 15-minute case presentations, each followed by a question and answer period.

For further information write:
Dr. D. L. Rife, 3014 Bathurst Street, Toronto 19, Ontario.

**Ontario Society of Orthodontists
Annual Meeting, 9 A.M., Monday May 22, 1961
Royal York Hotel, Toronto**

- M. C. Goldstein, D.D.S. Essayist: Orthodontics for the Adult Patient—Diagnosis, Treatment Planning, Mechanics, Aesthetics and Retention.
Dr. Goldstein of Atlanta, Georgia will conduct an all-day clinic and discussion. General dental practitioners attending the Convention of the Ontario Dental Association will be welcomed.

THE ONTARIO DENTAL ASSOCIATION

94th ANNUAL CONVENTION

ROYAL YORK HOTEL, TORONTO

May 21-24, 1961

Essayists

- | | |
|--|--|
| Dr. C. M. Stebner,
Laramie, Wyoming | Responsibility and Challenge for the General Dentist |
| Dr. C. H. Moses,
Toronto, Ontario | Theory and Procedure in Impression Making |
| Dr. A. E. Kahn,
New York City | Partial Versus Full Coverage |

Clinicians

- | | |
|--|--|
| Dr. C. M. Stebner,
Laramie, Wyoming | Tips and Techniques that Save Natural Dentitions |
| Dr. J. T. Hartsook,
Ann Arbor, Michigan | Pulpal Problems in Young Dentitions |
| Dr. J. R. Wilson,
Columbus, Ohio | The Old and the New in Gingivectomy |
| Dr. Ben Dent,
Memphis, Tennessee | Newer Procedures in the Silicate Cements |
| Dr. R. T. Lamb,
Montreal, Quebec | Modified Inlay Preparations for Fixed Prostheses |
| Dr. P. T. Smylski,
Hamilton, Ontario | Oral Surgical Procedures of aid to Dental Prosthetics |
| Dr. James Sim,
St. Catharines, Ontario | Periodontal Therapy for the General Practitioner.
Are we always too late with too little? |
| Dr. C. D. Torneck,
Toronto, Ontario | The Endodontic Management of Multi-Rooted Teeth |
| Major G. MacDougall,
Camp Borden, Ontario | Aesthetics and Function in Denture Prosthetics |
| Crown and Bridge
Study Club, Toronto | A Fixed Bridge replacing a Lower Right First Molar |

Dental Public Health Committee

- | | |
|--|---|
| Dr. F. B. Burns &
Dr. D. J. E. Mitchell | Everyday Problems in Dentistry for Children |
|--|---|

ANNOUNCEMENTS

Conventions of the Canadian Dental Association

1961	Saskatoon, Saskatchewan	June 4th-7th
1962	Vancouver, British Columbia	June 3rd-6th
1963	Toronto, Ontario	May 19th-22nd
1964	Edmonton, Alberta	June 28th-July 1st
1965	Quebec City, Quebec	May 30th-June 2nd

1967	Toronto, Ontario	May
(Centennial Celebration of Dentistry in Canada)		

FUTURE EVENTS

Date	Function	Location	Officer	Address
Apr. 14, 1961	Mowry Memorial Lecture, Mt. Royal Dental Society	Montreal General Hospital	Dr. C. G. Baer,	4700 Prince of Wales, Montreal 28, P.Q.
May 4-6, 1961	British Columbia Dental Association	Aquatic Club, Kelowna, B.C.	Dr. W. R. Upton,	217-925 W. Georgia St., Vancouver, B.C.
May 20, 1961	Canadian Soc. Dentistry for Children Ontario Chapter	King Edward Sheraton Hotel, Toronto.	Dr. R. L. Rife,	3014 Bathurst St., Toronto, Ont.
May 21, 1961	Canadian Academy of Periodontology	Royal York Hotel, Toronto.	Dr. D. S. Moore,	705 Professional Arts Bldg., Hamilton, Ont.
May 21-24, 1961	Ontario Dental Association Convention	Royal York Hotel, Toronto.	Mrs. W. C. Durham,	230 St. George St., Toronto 5, Ont.
May 22, 1961	Ontario Society of Orthodontists	Royal York Hotel, Toronto.	Dr. R. D. Leuty,	2 Bloor St. East, Toronto, Ont.
May 25-27, 1961	Dental Association of the Province of Quebec	New Sherbrooke Hotel, Sherbrooke, P.Q.	Dr. C. Tessier,	260 Ball Street, Sherbrooke, P.Q.
June 1-4, 1961	Swiss Dental Society Jubilee Congress	Basle, Switzerland	Dr. H. Michel,	Eisengasse 8, Basle, Switzerland
June 18-23, 1961	British Dental Association Convention	Harrogate, England	Mr. J. Peacock,	13 Hill St., London W.1., England
July 2-5, 1961	Atlantic Provinces Dental Convention	Charlottetown, P.E.I.	Dr. L. I. Duffy,	202 Queen Street, Charlottetown, P.E.I.
July 9-15, 1961	Fédération Dentaire Internationale	Helsinki, Finland	Dr. G. H. Leatherman,	35 Devonshire Place, London W.1., England
Aug. 14-18, 1961	16th Australian Dental Congress	Sidney, Australia	Mr. D. Freeman,	T. & G. Building, Park St., Sidney, Australia
Sept. 12-15, 1961	2nd. Intl. Czechoslovak Stomatol. Congress	Marienbad, Czechoslovakia	Dr. F. Urban,	Karlovo nám. 23, Prague 2, Czechoslovakia
Oct. 16-19, 1961	American Dental Association Convention	Philadelphia, Pennsylvania	Dr. G. N. Cast, Jr.,	222 East Superior St., Chicago 11, Illinois
Nov. 12-19, 1961	Uruguay-Argentine International Dental	Montevideo, Uruguay	Dr. J. C. Turrell,	Av. Agraciada 1464 (P. 13) Montevideo, Uruguay.
Dec. 27-31, 1961	Alpha Omega Fraternity	Queen Elizabeth Hotel, Montreal	Dr. F. Vosburg,	5292 Queen Mary Rd., Montreal, P.Q.

POSTGRADUATE AND REFRESHER COURSES (U.S.)

TUFTS—June 18-22, 1961—12th Annual Berkshire Conference in Periodontology and Oral Pathology.

TUFTS—October 9-13, 1961—Special Participation Course in Periodontology.

Other information concerning dental meetings outside Canada is available at C.D.A. Headquarters upon request.

L'Association Dentaire Canadienne.

JOURNAL

Volume 27

Numéro 4

avril 1961

Le comité d'Ontario recommande la fluoruration

LE BUREAU D'INFORMATION PUBLIQUE DE L'A.D.C., Toronto, Ont.

"Le gouvernement devrait passer une loi pour permettre aux municipalités de fluorurer l'eau de leurs aqueducs, sans le recours d'un référendum." Ainsi s'exprimait le rapport du Comité d'enquête d'Ontario, le 21 février 1961.

Le comité a aussi suggéré à la Législature d'autoriser la fluoruration de l'eau des aqueducs qui ne sont ni contrôlés, ni dirigés par les municipalités; il recommande, en outre, d'instituer un programme pour éduquer la population en matière de nutrition pour veiller au maintien de sa santé en général et à celui de sa santé dentaire. Le comité a de plus proposé de continuer à chercher des succédanés à la fluoruration de l'eau qui pourraient s'utiliser dans les régions qui n'ont pas de système d'aqueduc.

On lit dans le rapport les lignes suivantes: nous sommes convaincus qu'il est certain que la présence de fluor, soit à l'état naturel, soit ajouté artificiellement à l'eau d'une municipalité ou d'un comté, à raison d'une partie de fluor pour 1 million de parties d'eau, abaisse d'une façon spectaculaire l'incidence de la carie, quand cette eau est consommée durant la période de formation des dents, et que l'effet produit par le fluor se prolonge jusque dans l'âge adulte.

"Nous sommes convaincus que la fréquence de la carie dentaire en Ontario est telle qu'il faut la considérer comme un problème grave et de première importance en santé publique et que la profession dentaire ne peut pas traiter adéquatement toutes les caries de la population . . .

Nous croyons que la réduction de l'incidence de la carie constitue un problème de prévention et non un problème de traitement."

Le rapport poursuit: nous réalisons l'importance d'une bonne santé buccale, mais, en même temps, nous reconnaissons les limites d'un bon programme d'hygiène buccale dans notre milieu. Nous savons le rôle important que joue l'alimentation dans la diminution de l'incidence de la carie dentaire, mais nous nous rendons compte, avec surprise et avec anxiété, du déséquilibre de la nutrition générale, en Ontario. Le comité mentionne aussi qu'il est convaincu que l'ingestion à long terme de fluor dans la proportion d'une partie pour un million de parties est très bien tolérée par l'organisme; aussi que l'équipement dont disposent les municipalités dans leurs systèmes d'aqueduc pour mêler le fluor à l'eau fonctionne à la perfection et qu'il en contrôle adéquatement et sûrement la concentration.

Le rapport ajoute que la commission croit que les déboursés que devrait faire une municipalité pour fluorer son eau sont raisonnables, si on songe aux bénéfices qu'en retirera la population. La présence de fluor dans l'eau, à la concentration désirable, dit le rapport, ne corrode pas les conduits principaux d'eau, les tuyaux ou les accessoires; de plus, elle ne gêne pas les manutentions industrielles. "Nous croyons que jusqu'à maintenant, il n'y a pas d'autre moyen aussi pratique que la fluoration de l'eau de consommation dans les régions où l'eau n'a pas une teneur en fluor qui est à peu près d'une partie pour 1 million de parties."

"Nous sommes convaincus que la fluoration de l'eau d'une municipalité, en vertu de lois votées dans ce but, ne constituerait pas un déni de tout droit civil fondamental ou une atteinte à la liberté, principes que la Législature d'Ontario se doit de protéger et de préserver."

Le Comité d'enquête d'Ontario sur la fluoration avait été formé, en mars 1959, et il avait des pouvoirs identiques à ceux d'une commission royale.

Le président du Comité était M. K. G. Morden, juge de la Cour d'Appel de la Cour Suprême de l'Ontario. Les membres du comité étaient le docteur G. E. Hall, président de l'Université Western et Mme Egmont L. Frankel. Mme Frankel a été remplacée plus tard par Mme Cameron McKenzie.

Le comité, après avoir tracé sa ligne de conduite, a consulté le docteur Roy G. Ellis, doyen de la faculté dentaire de l'Université de Toronto. A la suite de cette entrevue, le comité a demandé à trois professeurs de la faculté, les docteurs R. M. Grainger, G. Nikiforuk et K. J. Paynter, d'écrire chacun un mémoire sur la question. On a aussi sollicité des mémoires d'un spécialiste en nutrition, d'un professeur en pharmacologie et d'un professeur en médecine préventive. Ces scientifiques furent priés de faire une revue de la littérature portant sur leur discipline respective et de présenter un rapport complet de la littérature qu'ils avaient consultée.

Ces rapports furent soumis à la fin de 1959. Le comité décida alors de tenir des séances publiques pour recevoir les mémoires de tous ceux qui s'intéressaient à la question. Quatre-vingt-onze mémoires furent présentés et parmi ceux-ci se trouvaient ceux de l'Association dentaire canadienne, du Collège Royal des Chirurgiens-Dentistes d'Ontario et de l'Association dentaire d'Ontario. Le Comité lut tous les mémoires; les séances publiques furent fixées pour mai 1960. Des entrevues privées eurent aussi lieu durant l'été et durant l'automne. Le comité reçut les principaux adversaires de la fluoration qui étaient qualifiés par leur compétence à discuter du problème et leur accorda tout le temps désiré; il considéra toutes les opinions scientifiques qui lui furent soumises et qu'il avait trouvées par ses propres recherches. Le comité obtint d'autres renseignements lui venant de rapports supplémentaires, par correspondance, par questionnaires et par enquêtes. La besogne considérable du comité se termina en décembre 1960; il commença alors à écrire son rapport.

LE PROBLÈME DE LA SANTÉ DENTAIRE D'ONTARIO

"La carie dentaire constitue un problème beaucoup plus considérable que ne le réalisent ou veulent l'admettre la plupart des gens; on ne peut plus le mettre en doute. L'ampleur du problème de santé dentaire (la carie dentaire, les malocclusions et les maladies des gencives) qu'on est porté à méconnaître, est telle qu'il devrait retenir l'attention, non seulement des autorités sanitaires, mais de toute la population d'Ontario . . . il est évident que toute incapacité physique, au niveau national, attribuable aux maladies dentaires et à une mauvaise hygiène dentaire est telle qu'elle constitue un problème sanitaire majeur."

Au moins deux témoins entendus par le comité ont mis en doute, à cause des erreurs possibles au cours des examens, l'exactitude de l'index C-A-O.

Le comité croit que, même si cet index n'est pas parfait, celui-ci est, jusqu'à maintenant, le seul système disponible pour évaluer le taux des caries au sein d'une population.

Le comité est aussi d'opinion que les gens se préoccupent peu du problème de la santé dentaire et que même, dans certaines localités, les parents, malgré les tentatives qu'ont fait pour les éduquer dans ce domaine, ne se soucient pas de la carie dentaire dont souffrent leurs enfants. Toutes ces campagnes éducatives entreprises par divers organismes et par l'organisation que nécessite l'examen des dents dans les écoles ne changeront pas l'attitude de la population envers ce problème tant que celle-ci ne montrera pas un intérêt personnel sur cette question. Le rapport déclare: "s'il y avait assez de dentistes pour donner les traitements . . . l'obturation des cavités causées par la carie n'apporterait pas de solution au problème de la carie dentaire . . ." Le comité, avec les chiffres qui lui furent fournis par l'Association dentaire canadienne, estime à plus de cent millions de dollars le coût des traitements des maladies dentaires au Canada, à quarante-sept

millions de dollars en Ontario et à dix-sept millions dans le Toronto Métropolitain. "L'ampleur du problème, tant au point de vue économique qu'au point de vue heures de travail, est telle que le contrôle des maladies dentaires ne peut s'effectuer que par des mesures préventives."

LE FLUOR NATURELLEMENT DANS L'EAU ET CELUI QU'ON Y AJOUTE ONT LES MÊMES EFFETS

Plusieurs personnes qui ont comparu devant le comité ont prétendu que le fluor à l'état naturel dans l'eau était différent de celui (fluor de calcium ou fluor de sodium) qu'on ajoute à l'eau des aqueducs. Le comité croit que le fait que ces fluors soient différents ne change pas le principe chimique fondamental, car ces deux formes de fluor sont des ions dans les deux cas et ils sont identiques. Le comité a entrepris une étude complète de la chimie du fluor et de l'effet du fluor dans l'eau; il a conclu que les recherches sérieuses entreprises à Brantford-Sarnia-Stratford, Kingston-Newburg, etc., sont concluantes et qu'elles ont prouvé que la présence de fluor, soit à l'état naturel, soit additionné à l'eau des aqueducs des municipalités ou des comités dans une proportion d'une partie pour 1,000 parties, abaisse incontestablement l'incidence de la carie dentaire, quand cette eau est consommée dans l'époque où les dents s'élaborent dans l'organisme et que cet effet se prolonge jusque durant l'âge adulte.

Le comité s'est aussi renseigné sur les effets de la fluoration au point de vue médecine. Le comité s'est convaincu que la consommation prolongée d'eau additionnée de fluor, même à une concentration plus forte que celle qui est recommandée, n'a, d'après les évidences, aucun effet nocif sur le système osseux ou sur le système rénal. Le comité, de plus, s'est persuadé que l'ingestion prolongée d'eau à une teneur d'une partie de fluor pour un million de parties d'eau n'influence aucunement les maladies de cœur, la pro-

duction du cancer, des néphrites, des maladies du système digestif, de l'arthrite, des maladies du foie, du système respiratoire, du système nerveux, du système cardio-vasculaire, des maladies du sang, de plusieurs autres glandes et organes de l'organisme.

"Nous sommes convaincus qu'une teneur du 1 p.p.m. de fluor dans l'eau est sans danger, même si cette eau est consommée durant longtemps . . . La consommation d'eau additionnée de fluor à une concentration de 1 p.p.m. n'a aucun effet nocif."

CONSIDÉRATIONS SUR LA MÉCANIQUE ET L'ÉCONOMIE DE LA FLUORATION

Le comité a étudié à fond l'aspect mécanique et économique de la fluoration; il a interviewé des ingénieurs et il a visité l'aqueduc de Brantford pour se rendre compte que les méthodes qu'on y utilise pour fluorer l'eau sont sûres et efficaces. Il n'y a aucune raison de croire, selon le comité, qu'accidentellement une quantité considérable de fluor soit mêlée à l'eau. Une panne de l'appareillage pour fluorer l'eau arrête immédiatement le mécanisme et l'approvisionnement des composés de fluor. Le comité n'a trouvé aucune trace de corrosion ou de concentration en fluor dans les municipalités d'Ontario où on se sert de fluor.

Une des objections souvent entendues au cours des séances publiques et souvent relatées dans les mémoires portait sur le coût et la perte inutile de la fluoration. Le rapport du comité souligne que la chlorination de l'eau destinée au public peut aussi paraître dispendieuse et souvent inutile, puisque la plus grande partie de cette eau ne sert pas à la consommation. Le coût annuel de la fluoration par personne se chiffre à environ .10 cents. On estime que les déboursés qui doivent être faits pour chaque enfant de Toronto, durant les premières cinq années de sa vie, comparés au coût de la fluoration et à l'épargne (environ 50%) que fera réaliser la fluoration, justifie le coût de cette mesure.

D'autres considérations s'ajoutent à ce qui précède: les avantages d'améliorer

la santé dentaire de la population et la possibilité et les implications financières d'autres méthodes pour profiter des fluorures. Le comité a conclu que l'appareillage utilisé pour mêler du fluor à l'eau est bon et sans danger; que le coût pour fluorer l'eau d'une municipalité est raisonnable, quand on songe aux avantages sanitaires que cette mesure apporte aux citoyens.

AUTRES MÉTHODES DE FLUORATION

Le comité a songé à des moyens autres que la fluoration de l'eau de consommation: comprimés de fluor, fluoration du sel de table, fluoration du lait, application topiques de fluorures, solutions concentrées de fluor, dentifrice à base de fluorure d'étain et appareils domestiques de fluoration. Il a conclu qu'à l'heure actuelle le seul moyen pratique est d'ajouter du fluor à l'eau. De plus, le comité craint que l'utilisation de ces autres méthodes, étant laissées nécessairement à la discrétion des individus, porte les gens à oublier les immenses avantages que retirerait toute la population de la fluoration de l'eau de consommation.

DROITS CIVILS

Le comité, à cause de la complexité du problème, a insisté dans son rapport sur les droits civils ou la liberté des individus. Ces considérations naissent du fait que les citoyens seraient forcés de consommer une eau fluorée, là où la fluoration serait mise en vigueur; ils n'auraient pas le choix. La question, selon le comité, se situe ainsi: l'Etat est-il moralement justifié de forcer un segment de la population d'une municipalité donnée à consommer une eau fluorée, sans qu'il en retire de bénéfices immédiats, de façon à assurer à une autre partie de la population, notamment les enfants, une meilleure denture et ainsi, avec le temps, de doter une proportion de plus en plus grande de cette population d'avantages incontestables?

Les droits du peuple se trouvent non seulement dans ces textes écrits, mais aussi dans des lois de sens commun, qui ne sont pas écrites. Il n'y a aucun droit

civil ou aucune liberté qui soit absolu ou indiscutable. Il faut des restrictions et des réserves à l'exercice de tout droit pour protéger les intérêts fondamentaux de la communauté. La Législature est souveraine.

Des événements récents ont montré que le public a espéré et qu'en fait il a exigé que l'Etat assume une responsabilité de plus en plus grande pour des devoirs qui étaient autrefois l'apanage de l'entreprise privée. Le comportement de l'Etat dans ce sens a évidemment atténué la liberté de l'individu, mais l'Etat a pris ces initiatives sous la pression de l'opinion publique.

On a prétendu, en certains milieux, que la fluoration était une entrave à la liberté de croyance religieuse. Le comité a décidé qu'aucun groupement, en raison de ses croyances, a le droit de priver la majorité de bénéfices que celle-ci désire. La fluoration de l'eau, selon le sens commun, n'empêche en aucune façon l'exercice d'une liberté religieuse. Le rapport continue: la fluoration ne nuirait en rien à la liberté que possède tout individu de se servir de son corps et de son esprit comme il l'entend, d'échanger des idées et de s'associer à ses semblables pour des objectifs permis. Les adversaires de la fluoration seront très déçus, si la Législature, dans l'exercice de ses fonctions démocratiques, autorise la fluoration; ils restent libres cependant d'exposer leurs arguments par la parole, les écrits et des assemblées, pour forcer le gouvernement à modifier plus tard sa décision. Le comité, après avoir considéré longuement cette question des droits civils, a conclu que la fluoration de l'eau de consommation, en vertu d'une législation conforme, ne constituerait pas une entrave à des droits civils fondamentaux ou à la liberté des individus, car la Législature, dans sa sagesse, a comme première préoccupation de sauvegarder ces droits civils et cette liberté.

LÉGISLATION RECOMMANDÉE

Le comité a recommandé au gouvernement de présenter un bill qui permettrait

aux municipalités d'imposer la fluoration sans avoir à recourir à un referendum.

"Nous sommes persuadés que cette question ne doit pas se décider au niveau local à l'aide d'un plébiscite . . . Les conseils municipaux, à notre avis, à cause de la nature de cette question, doivent prendre la responsabilité d'en décider, sans recourir à un vote de leurs citoyens avant d'agir."

Ce texte est un résumé du rapport présenté par le Comité d'enquête d'Ontario sur la fluoration. Le rapport lui-même a 177 pages et il exprime l'opinion unanime de ses trois membres.

LA FLUORATION, SANS PLÉBISCITE, EN ONTARIO

La Législature d'Ontario a été saisie d'un projet de loi pour permettre aux municipalités d'adopter des règlements autorisant la fluoration. Cette législation avait été recommandée par le Comité d'enquête d'Ontario sur la fluoration qui remettait, ces jours derniers, son rapport au gouvernement.

Le Ministre de la Santé, M. M.B. Dymond, a présenté le 2 mars, un bill qui, dit-on, accorde aux municipalités la liberté, si elles le désirent, de tenir un plébiscite. Une requête signée par dix pour cent des électeurs suffirait à en exiger un. Le Conseil municipal devrait alors se conformer aux résultats d'un tel référendum.

Le président du Conseil du Toronto Metropolitain aurait déclaré qu'il proposera l'adoption d'un règlement pour fluorer l'eau de consommation de Toronto.

Il serait nécessaire, pour que le public vote sur cette mesure, qu'une requête soit signée par dix pour cent des électeurs de la majorité — soit sept — des municipalités qui forment le Toronto Metropolitain. Le maire de la ville de Toronto aurait dit qu'un plébiscite n'est pas nécessaire, puisque le Conseil du Toronto Metropolitain s'est prononcé en faveur de la fluoration et qu'il n'a maintenant qu'à adopter un règlement.

La fluoration battue en brèche

par PAUL SIMARD, D.D.S., D.H.D.P., Lévis, P.Q.

Telle est la manchette d'un article paru en date du 15 août 1960 dans "*Vers Demain*," organe de l'aile créditiste dirigée par Mme Côté-Mercier et M. Louis Even . . . L'on affirme entr'autres que 119 dentistes du District de Worcester (sur un total de 151) ont demandé le retrait de la fluoration après que la Société Dentaire du District de Worcester eût donné son approbation à cette mesure d'hygiène publique.

Faisant écho à cette supposée nouvelle, *La Presse* publiait, le 17 septembre 60, dans la chronique "La parole est à nos lecteurs" une lettre signée S.B.D. et intitulée: "Dentistes et médecins contre la fluoration" . . . S.B.D. reprenait à son compte les énoncés de "*Vers Demain*".

Après information prise auprès du secrétaire de la Société Dentaire du District de Worcester, il était possible de faire cette mise au point:

Monsieur le Rédacteur,

"La parole est à nos lecteurs" reproduisait, le 17 septembre 1960, une lettre intitulée "Dentistes et médecins contre la fluoration" qui démontre une fois de plus le manque d'objectivité des anti-fluorationnistes.

Le correspondant, qui a tiré sans doute ses renseignements dans l'édition du 15 août 1960 de *Vers Demain* (même traduction d'un document écrit en anglais) énonce que 119 dentistes de Worcester sur un total de 151 se sont prononcés contre la fluoration . . . Les faits sont tout autre. Sur 253 dentistes du district de Worcester, seulement 15 s'opposent à cette mesure . . . Ces renseignements sont fournis par le Dr Charles J. Goldthwaite,

D.D.S., secrétaire de la Société dentaire du district de Worcester.

En 1952, le Dr Max Ginns, un violent antifluorationniste, avait fait circuler une requête parmi les membres de la Société dentaire du district de Worcester. Il avait récolté le nom de 119 dentistes. Nombre de ces derniers croyaient qu'il s'agissait d'une pétition à l'effet de continuer la discussion sur la fluoration aux réunions régulières de l'association (il y a 8 ans, la presque unanimité n'était pas encore faite sur la fluoration). Pour dissiper toute confusion, la Société dentaire du district de Worcester a fait voter ses membres au sujet de la fluoration. Si un dentiste de l'association change d'opinion, il n'a qu'à en avertir le secrétaire. Le poll reste ouvert.

Voici, en date du 23 août 1960, quelles sont les positions des dentistes de cette association:

Sur 253:

212 sont pour la fluoration

18 n'ont pas fourni de réponse

8 sont indécis

15 sont contre.

Telle est la vérité. Peut-on alors croire en la bonne volonté de gens qui torturent ainsi les faits afin de donner l'impression que la fluoration est battue en brèche par la profession dentaire?

Signé: L. P. S.

La Presse, mercredi, 21 sept. 60.

La lutte pour la fluoration est loin d'être gagnée . . . car pour bien des adversaires de la fluoration tous les moyens sont bons. N'en avons-nous pas là une preuve tangible?

8 Bellevue, Lévis.

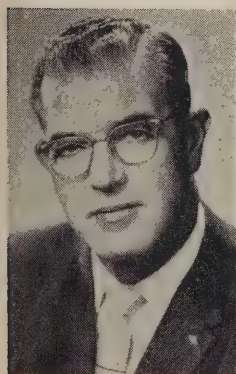
CONGRES DE L'ASSOCIATION DENTAIRE CANADIENNE
et de la Société dentaire de l'ouest du Canada
à Saskatoon, Saskatchewan
les 4, 5, 6, 7 juin 1961



Dr George McGee



Dr A. Elfenbaum



Dr Lyle Bishop

PROGRAMME

dimanche, le 4 juin

- Inscription
8.30 hrs p.m. — Concert

lundi, le 5 juin

- 9.00 hrs a.m. — Cérémonies d'ouverture
9.30 " a.m. — Conférence: "Prothèse dentaire"
Dr George McGee
10.30 " a.m. — Conférence: "Diagnostic"
Dr A. Elfenbaum
12.15 " p.m. — Déjeuner de l'Association dentaire canadienne
2.30 " p.m. — Conférence du Mémorial Grieve
Dr Wendell Wyllie
3.50 " p.m. — Conférence: "Chirurgie buccale"
Dr Lyle Bishop
7.00 " p.m. — Dîner au poulet grillé en plein air.
Danses carrées

mardi, le 6 juin

- 9.00 hrs a.m. — Conférence: "Prothèse dentaire"
Dr George McGee
10.15 " a.m. — Conférence: "Diagnostic"
Dr A. Elfenbaum
12.00 " p.m. — Déjeuner offert par la province de Saskatchewan; discours de l'Hon. T. C. Douglas, premier ministre.
2.00 " p.m. — Cliniques et démonstrations
6.00 " p.m. — Réunions de classes
Dîner du Conseil des délégués

mercredi, le 7 juin

- 9.00 hrs a.m. — Conférence: "Chirurgie buccale"
Dr Lyle Bishop
10.30 " a.m. — Conférence: "Prothèse dentaire"
Dr George McGee
12.00 " a.m. — Déjeuner de la Société dentaire de l'ouest du Canada
Colloques dirigés par les cliniciens
2.00 " p.m. — Conférence: "Diagnostic"
Dr A. Elfenbaum
3.30 " p.m. — Conférence: "Chirurgie buccale"
Dr Lyle Bishop
6.00 " p.m. — Coquetel
7.00 " p.m. — Banquet
9.00 " p.m. — Danse du Président

Golf à la discrétion des joueurs, dimanche, lundi, mardi, mercredi

Aliments et leur effet actif sur les maladies dentaires*

par V. G. BASTIEN, D.D.S., D.H.D.P., Port-au-Prince, Haïti.

L'aspect préventif de la dentisterie, tout comme d'ailleurs de la médecine, est encore en retard sur les remarquables réalisations dans le domaine de la chirurgie et de la prothèse.

C'est, en effet, seulement depuis environ une vingtaine d'années, grâce à la découverte par le groupe de Michigan de la relation entre les lactobacilles et la carie dentaire, que le régime de Jay nous permet un certain contrôle de la carie dentaire. L'utilisation du fluor est encore plus récente. L'une et l'autre méthode ont, cependant pour le moment, des limitations quant à leur usage sur une échelle générale.

Aucune méthode de prévention ne semble avoir été sérieusement étudiée et encore moins appliquée pour les deux autres membres du trio des affections buccales: les paradontopathies et la malocclusion.

Un régime alimentaire approprié, du point de vue physique, peut contribuer dans une certaine mesure à leur prévention aussi bien qu'à celle de la carie.

Newman et DiSalvo ont démontré expérimentalement que les dents sont des organes compressibles. C'est ce phénomène qui, d'après eux, expliquerait le taux étonnamment bas de carie dentaire chez les peuples primitifs vivant d'aliments durs: la tribu des Indiens Aymara du Pérou, par exemple, présente un taux de carie dentaire de 0.1% bien que leur diète soit basée sur des carbo-hydrates et que leur eau de boisson soit pauvre en fluor.

Des investigations expérimentales aussi bien que cliniques ont scientifiquement

démonstré l'influence bénéfique exercée sur les tissus périodontaires et le développement dento-facial par un régime alimentaire à base d'aliments exigeant un vigoureux usage de l'appareil masticatoire. Price a observé ce fait aussi bien chez les Esquimaux, des groupements isolés d'Afrique et d'Océanie que dans certaines communautés de France ou de Suisse. A la lumière de nombreuses observations du même genre, il importe qu'un sérieux effort soit entrepris pour changer les habitudes diététiques prévalant actuellement dans le monde et substituer, même partiellement, ces produits alimentaires mous, pâteux, raffinés, n'exigeant pratiquement aucun effort masticatoire et, partant, générateurs d'affections buccales, par ou bien leurs contreparties préparées de manière à provoquer une meilleure stimulation fonctionnelle, ou bien par l'introduction de produits exotiques comme la canne-à-sucre qui a d'ailleurs, déjà été utilisée avec quelque succès . . .

Le terme ergogénique est proposé pour désigner un type de régime stimulant la fonction masticatoire et celui d'anergonique pour le régime opposé.

Déjà il existe sur le marché un certain nombre de produits alimentaires avec un index d'ergogénicité assez élevé. Il importerait que la profession dentaire obtienne la collaboration de l'industrie alimentaire pour une production abondante et diversifiée. L'ergogénicité de ces aliments devra être exactement déterminée de telle sorte qu'une classification puisse être établie en fonction de la demande masticatoire des dits aliments. Ainsi il sera possible d'étudier le comportement de l'appareil dentaire soumis à un régime à ergogénicité donnée.

La classification permettra au dentiste la prescription, selon le cas, de telle ou telle diète ergogénique.

*Résumé d'une thèse présentée pour l'obtention d'un certificat en hygiène dentaire publique à l'Université de Toronto.

LES ACTUALITES DENTAIRES

Le Canada

UNE COMMISSION ROYALE ÉTUDIERA LA QUESTION "SANTÉ"

L'Honorable M. Diefenbaker a annoncé la formation d'une Commission royale des services de santé. Le président de cette Commission est le Juge Emmett M. Hall de la Cour du Banc de la Reine de Saskatchewan. On s'attend à la nomination de quatre autres membres.

Le mandat de la Commission est d'entreprendre une étude des disponibilités et de la suffisance des membres des services de santé pour la prévention, le diagnostic et le traitement des citoyens du Canada; cette Commission touchera aussi aux services de réhabilitation. Elle doit présenter un rapport suggérant des moyens pour remédier aux déficiences actuelles des services sanitaires.

M. Diefenbaker, en faisant part de cette nouvelle, a déclaré que le gouvernement avait reçu des mémoires qui soulignaient le besoin d'entreprendre "une enquête complète sur les exigences de tout le pays en matière de santé et sur les lacunes qui existent dans les soins de santé, enquête qui aurait comme objectif la possibilité d'établir un plan national de santé."

Il est probable que la constitution de cette Commission suscitera un surcroît d'activités au sein des organismes qui représentent les professions s'occupant de santé. On peut lire dans l'extrait des "*Débats de la Chambre des Communes*" (21 décembre 1960) ce qui suit au sujet de cette déclaration de M. Diefenbaker:

NOMINATION D'UNE COMMISSION ROYALE AU SUJET DES STANDARDS DE SANTE

Le Très Hon. J. G. Diefenbaker (Premier ministre): "M. le président, j'ai à communiquer une nouvelle qui, j'en suis sûr, intéressera les honorables députés et le pays tout entier. Depuis quelque temps, divers organismes et divers groupes ont soumis au gouvernement des mémoires soulignant la nécessité d'entreprendre une enquête complète sur les exigences de tout le pays en

matière de santé et sur les lacunes qui existent dans ce domaine, enquête qui aurait comme objectif la possibilité d'établir un plan national de santé. La Chambre apprendra avec intérêt que récemment l'Association médicale canadienne s'est mis en rapport avec moi sur cette question et, avec la permission de la Chambre, je donnerai lecture d'une lettre dont la teneur correspond aux idées que je viens d'exprimer. Elle m'a été adressée par l'Association médicale canadienne:

12 décembre 1960

Au très Honorable John G. Diefenbaker
Premier Ministre du Canada
Ottawa, Ontario.

Cher M. Diefenbaker,

La profession médicale du pays se préoccupe de disséminer à tous les citoyens du Canada des services personnels de santé, comme le montre l'établissement, sous les auspices de médecins, de 11 plans facultatifs de services médicaux pré-payés qui desservent au delà de quatre millions de personnes.

L'Association médicale canadienne se rend compte de l'intérêt que suscitent de plus en plus chez les Canadiens les questions de services de santé et surtout l'utilisation des méthodes d'assurances pour défrayer pour tous le coût des services médicaux.

Les solutions idéales sont compliquées et il n'est pas facile d'élaborer un système pour régler ce problème.

Nous croyons qu'il serait opportun qu'un organisme qui aurait la confiance de la population de ce pays entreprenne une étude objective de ce problème pour suggérer des méthodes et prendre des décisions qui seraient bénéficiales à tous les intéressés.

On me prie de solliciter, en conformité avec la première partie de la Loi sur les Enquêtes, la formation d'une Commission royale ou de tout autre organisme similaire dont la fonction serait d'évaluer les nécessités en matière de santé et les ressources que possède le Canada dans ce domaine pour recommander des méthodes qui assureraient à tous les Canadiens des traitements sanitaires du plus haut calibre.

La distribution aux membres de la Chambre des Communes et à ceux du Sénat que nous avons faite récemment de la déclaration ci-jointe au sujet des assurances médicales a suscité des réactions qui dénotent un intérêt considérable militant en faveur de la forma-

tion d'une Commission telle que nous le suggérons; cette mesure recevrait, sans aucun doute, l'appui du Parlement.

Je suis certain que l'enquête entreprise par cette Commission royale recevrait toute la collaboration et tout l'appui de notre Association et que la profession médicale accueillerait avec plaisir cette occasion de fournir les renseignements que lui procurent son expérience et son intérêt évident à tous les domaines de la santé.

Bien sincèrement,

A. D. Kelly,
secrétaire général

Le gouvernement, à cause des mémoires qu'il a reçus d'à peu près toutes les classes de la population et de divers groupements économiques ou autres, a décidé de constituer une Commission royale, dont le mandat et dont les membres seront connus au début de la nouvelle année. Je ne puis déclarer maintenant la date où la commission commencera son travail, mais j'espère pouvoir annoncer ces détails dès après le retour des vacances."

Hon. Paul Martin (Essex-Est): "M. le président, chacun pourra tirer ses propres conclusions de cette déclaration du Premier Ministre, déclaration qui aurait normalement dû être faite par le Ministre de la Santé nationale et du Bien-Etre social. Le Premier Ministre rappelle à la Chambre que le secrétaire général de l'Association médicale canadienne lui a écrit pour offrir les services de son association dans cette enquête qui sera faite par la Commission royale. Je tiens à rappeler à la Chambre qu'il y a deux ans le Conseil canadien de bien-être national, dans un mémoire qui avait été soumis au gouvernement actuel, avait demandé de nommer un organisme du genre pour remplir les mêmes fonctions qu'a soulignées le Premier Ministre et pour faire une revision des mesures de bien-être social à l'échelon fédéral, en conformité avec les lois de ce pays. Le Premier Ministre a décidé qu'une Commission royale entreprendrait une enquête sur l'aspect "assurance" des traitements médicaux. Je tiens à souligner au ministre que le gouvernement lui-même pourrait entreprendre en collaboration avec les provinces cette étude sur la question d'assurance pour les soins médicaux, sans avoir recours aux offices d'un tiers organisme dont le gouvernement tient à retenir les services, à savoir une Commission royale. Ce sera au moins la cinquième fois que le gouvernement utilise un medium du genre pour promulguer ses idées ou ses politiques. Le gouvernement pourrait tout simplement mettre sur pied un plan spécifique d'assurance-médicale, comme l'ancien gouvernement a inauguré l'assurance-hospitalisation, qui a été adoptée en Cham-

bre sans qu'une Commission royale s'imisce dans cette question. De toute façon, je prierais le Premier Ministre, pas aujourd'hui, mais à la première occasion qui s'offrira, de nous fournir l'assurance que la constitution d'une Commission royale qui enquêtera sur cette question si importante pour la santé et le bien-être de la population n'a pas comme but de retarder ou de remettre à plus tard une mesure aussi essentielle. L'expérience du passé justifie mes remarques, car le Premier Ministre, en janvier 1958, a promis au peuple canadien que son gouvernement adopterait un système de pension de vieillesse semblable à celui qui existe aux Etats-Unis. Dans ce but, on a entrepris des recherches qui devaient être terminées en quatre mois, mais qui sont encore à se faire par le studieux Ministre de la Santé nationale et du Bien-Etre social."

L'Orateur: "A l'ordre. Je crois que l'honorable député s'engage dans la discussion de cette question, quand il établit des parallèles avec d'autres décisions du gouvernement. Je lui demanderais de s'en tenir à des commentaires généraux sur la déclaration qui vient d'être faite."

M. Martin (Essex-Est): "Nous avons des raisons pour justifier mes remarques. Je vous déclare avec la plus grande confiance que j'ai le droit de souligner que le Premier Ministre lui-même s'est servi de la même tactique, au cours d'une occasion précédente, quand il parlait d'un autre domaine du bien-être social. J'exprime seulement le vœu que cette Commission royale, dans le cas présent, ne sera pas un prétexte pour retarder une mesure que, comme je le crois, souhaite le peuple canadien, c'est-à-dire, une législation mise en acte par le Parlement en collaboration avec les gouvernements provinciaux; cette mesure empêchera tous les Canadiens de souffrir du manque de traitements médicaux pour le seul motif de ne pouvoir les payer. J'espère que cette déclaration du gouvernement est sérieuse et que cette mesure ne sera pas retardée, ni vouée aux oubliettes."

M. Hazen Argue (Assiniboia): "Cette journée me semble avoir été choisie par les deux grands partis pour annoncer à la Chambre de nouvelles politiques. Le Premier Ministre a déclaré qu'une Commission royale étudierait une question importante, tandis que l'honorable député d'Essex-Est a dévoilé, comme il ne l'avait jamais fait auparavant, les sentiments de son parti sur le même sujet, en laissant loin derrière lui les autres membres de son parti, y compris le leader de Saskatchewan. Je suis persuadé que la déclaration du Premier Ministre est tout simplement

un autre signe que le peuple du Canada est désireux de jouir le plus tôt possible des avantages d'un programme national d'assurance-santé. J'ai déjà dit devant cette Chambre, cette semaine, au sujet de cette question, que nous croyons qu'il est temps pour le gouvernement d'aller de l'avant dans le domaine de l'assurance-santé. Les deux orateurs précédents ont mentionné d'autres plans de santé. La population du Canada a dû attendre durant treize ans l'assurance-hospitalisation, depuis le moment où on a commencé à poser les premiers gestes jusqu'à ce qu'on finisse d'organiser ce plan dans son entièreté au bénéfice de toute la population de ce pays. Nous espérons que dans la question d'assurance-santé nationale et de traitements médicaux complets, on n'aura pas à attendre treize ans pour que toutes les provinces profitent d'une mesure qui a été créée déjà dans une province.

J'espère aussi, et je voudrais en faire part au gouvernement, qu'on ne répètera pas les lenteurs qui ont présidé à l'établissement des pensions de vieillesse. J'espère que le gouvernement, en prenant cette décision, ne cherche pas un moyen pour retarder la mise en acte de ce programme; le gouvernement devrait avancer rapidement dans ce sens.

M. le président, je crois que la déclaration du Premier Ministre recevra plus de considération que celle qui a été faite en de longues phrases, hier soir. Cependant, cette déclaration signifie peut-être une sorte de transfusion pour le bébé "bleu" qui est présentement en si piètre état et qui nous fut présenté dans la soirée d'hier par le Ministre des Finances."

M. Diefenbaker: "A cause des déclarations qui ont été faites . . ."

M. Pickersgill: "Je me lève sur un point d'ordre, M. le président. Je crois y a un principe clairement établi . . ."

L'Orateur: "A l'ordre. J'aimerais entendre l'honorable député."

M. Pickersgill (Bonavista-Twillingate): "Je crois qu'il y a un principe qu'a clairement établi votre prédécesseur, qui veut que quand le gouvernement fait une déclaration à la Chambre, les chefs des autres partis ont le droit de faire des commentaires sur cette déclaration. Ces commentaires ne doivent pas soulever de débat et aucun des ministres, y compris le Premier Ministre, ne peuvent ajouter quoi que ce soit sur la question. J'aimerais que ces règlements soient appliqués dans ce cas-ci."

L'Orateur: "Le Premier Ministre veut soulever un point d'ordre?"

M. Diefenbaker: "Je prends la parole sur

le point d'ordre, M. le président. L'opposition profite souvent de ces occasions pour faire des discours électoraux, quand des déclarations objectives sont faites."

M. Pickersgill: "On suggère qu'il est très mauvais pour l'opposition d'être partisane."

M. Diefenbaker: "J'ai fait une déclaration totalement dénuée de provocation. J'ai certes le droit de répondre à l'honorable député d'Essex-Est qui a prétendu que nous devrions suivre l'exemple de son parti au sujet de l'assurance-santé."

L'Orateur: "Il ne fait aucun doute que la tradition veut que la déclaration elle-même ne rapporte que des faits et que les commentaires qui la suivent soient exprimés sans provocation, de nature à ne pas soulever de débat et à ne pas inviter la réplique. La coutume veut qu'il n'y ait pas de réplique. La seule exception que j'ai tolérée se produit quand les commentaires au sujet de la déclaration interprètent cette déclaration d'une façon telle que des éclaircissements sont nécessaires ou, en d'autres mots, quand les commentaires interprètent mal la déclaration et quand il faut alors y apporter des explications. Je crois que, si l'occasion se présente, la Chambre concèdera qu'un député, s'il a l'impression que ce qu'il a dit a été mal compris ou mal interprété, aurait le droit d'attirer l'attention sur ce fait. Mais une simple réplique me semble être hors d'ordre. J'espère que le Premier Ministre se conformera à cet usage. C'est l'attitude que je prends."

M. Diefenbaker: "Je tiens à respecter les règlements de la Chambre, M. le président, mais je n'arrive pas à comprendre pourquoi on me refuserait le privilège de répondre à des allégations qui n'ont aucun rapport avec la question que j'ai exposée à la Chambre. La remarque que je tiens à faire au sujet de la décision que vous venez de rendre, M. le Président, est celle-ci: l'honorable député d'Essex-Est a déclaré que le but de la décision du gouvernement était de perdre du temps — ou quelque chose du genre — et il a dit que dans la question d'assurance-hospitalisation, nous, du gouvernement, nous devrions suivre l'exemple du parti qu'il représente, quand il était au pouvoir. Nous ne voulons pas certes suivre cet exemple pour 38 ans; c'est beaucoup trop long."

M. Pickersgill: "Je me lève sur une question de privilège qui touche chacun des membres de l'opposition. Ma question de privilège est celle-ci. Il y a quelques minutes dans cette Chambre qui est gouvernée par le système de partis, le Premier Ministre a accusé l'opposition d'être partisane. Nous ne laisserons

certainement pas le gouvernement actuel établir une dictature."

M. Starr: "Il semble que vous êtes contre le plan national de santé."

ASSOCIATION DENTAIRE CANADIENNE

Visites du Président. — Le président de l'A.D.C., le docteur James P. Whyte, accompagné du secrétaire, le docteur Don W. Gullett, a commencé, le 25 février, une tournée de visites dans l'ouest du pays. Il s'est rendu aux endroits suivants pour adresser la parole devant les sociétés dentaires: le 25 février—Sudbury, le 27 février—Winnipeg, le 28 février—Regina, le 1er mars—Saskatoon, le 2 mars—Edmonton, le 6 mars—Victoria, le 7 mars—Vancouver, le 9 mars—Calgary, et le 10 mars—Lethbridge.

Assemblée du conseil exécutif. — Les membres du conseil exécutif se sont rassemblés au secrétariat de l'A.D.C., à Toronto, du 20 au 22 février. Étaient présents: les docteurs J. P. Whyte, président, de Saskatoon; W. G. McIntosh, de Toronto; James Zimmerman, de Calgary; Rémy Langlois, de Québec; William Miller, de Vancouver; M. V. J. Keenan, de Sudbury; P. S. Christie, d'Halifax; G. M. Dewis, trésorier, d'Halifax; Don W. Gullett, secrétaire et les autres membres du personnel du secrétariat. Cette assemblée est la seule prévue cette année à cause du court intervalle s'écoulant entre la réunion du Conseil des Gouverneurs qui a eu lieu à Ottawa, en septembre 1960 et celle qui aura lieu à Saskatoon, en mai prochain. Cette assemblée avait un ordre-du-jour assez chargé pour ces trois journées. On publiera plus tard dans le Journal un compte-rendu de cette assemblée.

Délibérations de 1960.—La copie des Délibérations de la réunion annuelle du Conseil des Gouverneurs qui s'est tenue à Ottawa, en septembre dernier, a été postée à tous les membres de l'Association. L'édition française a été expédiée en février.

Ces Délibérations renferment une section spéciale; c'est le texte de la nouvelle constitution et des nouveaux règlements de l'A.D.C. C'est la première révision depuis dix ans. Tous les membres sont invités à se familiariser avec les décisions qui ont été prises en leur nom par l'Association, telles que les rapports, chaque année, les Délibérations.

Livraisons du Journal demandées.—La bibliothèque aurait besoin de livraisons du Journal d'avril, mai, juin et juillet 1960. Les mem-

bres qui pourraient disposer de ces numéros sont priés de les retourner au secrétariat de l'A.D.C.

On apprécie les courts métrages de l'A.D.C.—L'A.D.C. a reçu des lettres de toutes les régions du Canada commentant favorablement les courts métrages qu'elle présente à la télévision canadienne. Trois courts métrages de 60 secondes chacun ont été réalisés à la demande de l'A.D.C., par la Cie Crawley Films Ltd. Les titres de ces films sont: "le dentiste," "les recherches dentaires" et "l'hygiène dentaire." Des copies de ces petits films ont été remises aux postes privés de télévision et au réseau de Radio-Canada. Le Bureau des renseignements au public prie ceux qui ont vu ces films de l'en informer de façon à ce qu'il sache quels postes trouvent ces films intéressants.

Première livraison du "Recruitment Reporter".—Le premier numéro du "Recruitment Reporter" vient de paraître sous les auspices de l'A.D.C. Cette publication qui est un nouveau genre de bulletin-nouvelles s'adresse aux dentistes qui s'intéressent au recrutement à tous les niveaux: local, provincial, national. Le comité national de recrutement a décidé de publier un bulletin pour renseigner les dentistes sur la question de recrutement de candidats de première qualité pour les études dentaires. La livraison de février 1961 du Journal de l'Association dentaire canadienne contenait un rapport complet du programme du comité de recrutement national.

Réduction des tarifs de chemin de fer pour le Congrès de Saskatoon.—L'Association canadienne des passagers de chemin de fer a consenti une réduction des tarifs de transport pour les dentistes qui assisteront au Congrès de l'Association dentaire canadienne qui aura lieu à Saskatoon, du 4 au 7 juin 1961. Il faut des certificats pour obtenir ces réductions: on obtient ces certificats au secrétariat de l'A.D.C. Les dates de départ doivent être les suivantes:

Des gares de Terre-Neuve: du 21 au 30 mai 1961, inclusivement.

Des gares à l'ouest et comprenant Port Arthur et Armstrong, Ont.: du 27 mai au 5 juin 1961 inclusivement.

Des gares à l'est de Port Arthur et d'Armstrong, Ont. (excepté Terre-Neuve): du 24 mai au 2 juin 1961 inclusivement.

ONTARIO

Le Comité d'Ontario se prononce en faveur de la fluoruration.—On apprend en dernière

heure que le Comité d'enquête d'Ontario sur la fluoruration a soumis au gouvernement un rapport complet sur cette question. Le rapport recommande d'autoriser les municipalités d'Ontario à fluorurer leur eau de consommation sans tenir de plébiscite.

Le comité est d'avis que la fluoruration ne présente aucun danger pour la santé du public. L'application de cette mesure d'hygiène publique, dit le rapport, n'implique aucun empiètement sur les droits ou la liberté des individus. On reviendra sur cette question.

SASKATCHEWAN

Les dentistes de Saskatchewan soumettent un mémoire au Comité d'organisation des soins médicaux.—Le Conseil du Collège des Chirurgiens-Dentistes de Saskatchewan a comparu, le 8 février, en séance publique, devant le Comité d'organisation des soins médicaux, à Saskatoon. Il était accompagné du docteur Don W. Gullett, secrétaire de l'A.D.C. et de Mlle Boyd, directrice du Bureau des recherches économiques de l'A.D.C. Le docteur J. P. Whyte, de Swift Current, a souligné les points importants du mémoire préparé par le Collège à l'intention du Comité. Le mémoire soulignait la nécessité de contrecarrer la pénurie de dentistes en Saskatchewan; il suggérait d'établir une faculté dentaire à l'Université de Saskatchewan et de former un grand nombre d'auxiliaires dentaires avant de songer à l'organisation d'un système d'assurance-santé dentaire pour la population de cette province. Le mémoire contenait deux autres suggestions pour stimuler l'utilisation idéale des services: (1) programmes d'éducation en hygiène dentaire pour les enfants des écoles; (2) services dentaires préparés en faveur des enfants.

Le Collège, pour augmenter les disponibilités des services dentaires dans la province, a fait plusieurs recommandations: (1) orientation professionnelle pour diriger vers les études dentaires un plus grand nombre d'élèves des collèges; (2) accroissement du système actuel des bourses pour les étudiants en chirurgie dentaire de Saskatchewan; (3) fondation d'une faculté dentaire à l'Université de Saskatchewan; (4) propagande pour inciter les dentistes à exercer dans les régions rurales; (5) augmentation de l'assistance financière du gouvernement au Collège pour l'aider à amplifier son programme d'études post-universitaires à l'intention des dentistes pratiquants; (6) augmentation des services hospitaliers pour prodiguer des soins dentaires, surtout dans les régions où il n'y a pas de dentistes; (7) accroissement de l'appui du gouvernement provincial en faveur de la fluoruration; (8) la formation d'un nouveau genre de personnel auxiliaire à l'Université de Saskatchewan pour augmenter les disponibilités pour des services dentaires dans

la province. Le Collège, pour montrer qu'il souhaite la formation et l'utilisation de ces auxiliaires dentaires sous la surveillance directe de dentistes qualifiés, en accord avec la politique de l'Association dentaire canadienne, a assuré au comité et au gouvernement provincial de sa collaboration totale pour améliorer l'état de la santé dentaire de la population de Saskatchewan.

ALBERTA

L'Alberta recrute des auxiliaires. — Le Ministère de la Santé du gouvernement, selon des nouvelles parues dans les journaux, recherchent activement des élèves pour le nouveau programme d'entraînement des auxiliaires dentaires, en Alberta.

Ce gouvernement avait autorisé, en 1960, la faculté dentaire de l'Université d'Alberta à former des auxiliaires dentaires à l'aide d'un nouveau cours de deux ans. Ce cours doit débiter l'automne prochain et il est offert aux diplômées des collèges qui ont obtenu 60% des points dans les matières de la 12e année. Les hommes et les femmes peuvent s'inscrire à ce cours, quoique le cours s'adresse surtout aux jeunes filles. Le curriculum du cours est semblable à celui des hygiénistes dentaires actuelles. Les candidates qui auront été acceptées sont éligibles à une allocation de \$75.00 par mois, durant leurs deux années d'études, en plus d'une allocation pour payer leurs frais de scolarité et leurs livres.

Ces auxiliaires, quand ils auront reçu leur diplôme, devront travailler durant deux ans à des endroits choisis par le gouvernement. Après ces deux années, ils sont libres de travailler, selon leur préférence, dans une unité sanitaire ou un service municipal de santé.

Ces auxiliaires ne pourront pas exercer dans des cabinets particuliers de dentistes.

Le Corps dentaire royal canadien

Promotion du capitaine MacDonald. — Le quartier-général de l'Armée a annoncé la promotion du capitaine I. A. C. MacDonald au grade de major.

Le major MacDonald, qui est né à Mar-mold (I.-P.-E.), a obtenu son diplôme à l'Université de Dalhousie en 1950. Il a reçu son brevet d'officier au grade de capitaine en 1953 et il a servi dans la 12e Compagnie du Corps dentaire dans la Région militaire de l'Est. Le Major MacDonald est actuellement affecté à la 35e Unité dentaire en campagne à Metz (France), où il demeure avec sa femme et ses deux enfants.

Le sous-officier breveté de 1re classe Doyle est promu officier. — Le quartier-général de l'Armée a également annoncé que le sous-officier breveté de 1re classe H. F. Doyle a été promu au grade de lieutenant à compter du 22 décembre dernier.

Le lieutenant Doyle, qui est officier du matériel, est né à Saint-Jean (N.-B.) et il s'est enrôlé dans le Corps dentaire au mois de novembre 1940. Il est actuellement affecté au 1er Dépôt du matériel dentaire situé à Petawawa (Ont.), où il demeure avec sa femme et son enfant.

Des officiers du Corps dentaire suivent des cours. — Les officiers dentaires suivants ont suivi ou sont en train de suivre des cours. Ce sont:

Le major P. S. Sills, un cours de perfectionnement en art dentaire d'une durée de quatre mois au Walter Reed Army Medical Center, Washington (D.C.).

Le capitaine J. I. Gordon, un cours sur les dentiers partiels au U.S. Naval Dental School de Bethesda (Maryland).

Affectations. — Les nominations suivantes ont été faites récemment parmi les officiers dentaires:

Le major P.-H. Guèvremont, qui a été en service à bord du Bonaventure pendant un an, a été affecté à un poste à Montréal.

Le capitaine P.-J.-J. Coulombe, qui était en service à Camp Shilo (Man.), a été affecté à la station de l'ARC de Clinton (Ont.).

Des officiers dentaires américains suivent des cours au Canada. — C'est la première fois que des officiers dentaires de la Marine et de l'Armée des Etats-Unis suivent les cours cliniques donnés à l'Ecole du Corps dentaire au Camp Borden.

Le commandeur L. M. Armstrong et le lieutenant-colonel J. E. Lancaster ont suivi le cours donné en janvier et février, tandis que le lieutenant-commandeur S. O. Bartlett et le major D. E. Swartz doivent suivre le même cours pendant les mois de février et mars.

Le colonel Shillington à Washington et à Chicago. — Le colonel G. B. Shillington, directeur général adjoint des Services dentaires, a fait une visite de liaison au Quartier général du U.S. Navy Dental Corps, à Washington, le 2 février, et il s'est ensuite rendu à Chicago pour assister aux réunions de l'American Denture Society tenues, les 3 et 4 février, dans cette ville.

Le RCDC représenté auprès du Comité de rédaction du "Oral Health". — Le brigadier K. M. Baird a accepté l'invitation qu'on lui a faite de devenir membre du Comité de

rédaction du périodique "Oral Health". A cet égard, le lt-col. J. G. Butler, membre du personnel de la Direction, a remplacé le brigadier Baird à une réunion du Comité de rédaction, qui s'est tenue le 25 janvier à Toronto.

Des officiers dentaires supérieurs suivent un cours à l'Ecole du RCDC. — Un cours clinique à l'intention des officiers dentaires supérieurs s'est donné à l'Ecole du RCDC, au Camp Borden, du 16 janvier au 17 février. En plus des sujets cliniques, le cours comprenait une semaine d'instructions sur les soins à donner aux blessés et trois jours de cours sur l'hygiène dentaire publique. Les officiers qui ont assisté à ces cours sont les suivants:

Le commandeur L. M. Armstrong—U.S. Navy Dental Corps

Le lt-col. J. E. Lancaster—U.S. Army Dental Corps

Le lt-col. N. A. Butcher—H.M.C.S. Cornwallis, Cornwallis (N.-É.)

Le lt-col. O. W. Crummey—Griesbach Barracks, Edmonton

Le lt-col. R. H. G. Cunningham—Station de l'A.R.C., Trenton (Ont.)

Le lt-col. W. R. Cunningham—H.M.C.S. Stadacona, Halifax (N.-É.)

Le lt-col. A. R. Smith—Station de l'A.R.C., St-Jean (P. Qué.)

Le major J. J. Walker suit un cours de la U.S.A.F. — Le major J. J. Walker, de la Station de l'Aviation royale du Canada, à Cold Lake (Alberta), a récemment suivi un cours de chirurgie dentaire à la Ent Air Force Base, Colorado Springs, Colorado.

Les majors Pierce et Small au Collège de la défense civile. — Le major L. R. Pierce, de la Station de l'Aviation, à Clinton, ainsi que le major E. J. C. Small, de la Région militaire du Centre, à Oakville, ont suivi le cours d'initiation à l'intention des médecins et des dentistes, au Collège de la défense civile, à Arnprior (Ont.).

Des officiers dentaires servent à bord de navires. — Des mutations ont eu lieu récemment parmi les officiers affectés à des navires de la Marine royale du Canada en service en mer. Les officiers suivants servent maintenant à bord des navires indiqués ci-après:

H.M.C.S. Bonaventure — le major J. McGaughey

H.M.C.S. Cape Scott — le major C. G. B. Grant

H.M.C.S. Cape Breton — le capitaine D. G. Gardner

Cours d'hygiène dentaire publique donné à l'Ecole du Corps dentaire. — Les majors D. H. Protheroe et D. H. Hillier, qui font partie du personnel de la Direction des services

dentaires, ont donné un cours d'hygiène dentaire publique à l'Ecole du Corps dentaire de Camp Borden, du 14 au 16 février, à l'intention d'un groupe d'officiers dentaires supérieurs du Canada et des États-Unis.

Le cours, qui comportait 21 causeries et séminaires, était destiné à démontrer de quelle façon les principes de l'hygiène publique peuvent s'appliquer au fonctionnement d'une clinique dentaire militaire et on y a traité brièvement des statistiques élémentaires, de l'enseignement de l'hygiène dentaire et de la dentisterie préventive.

Les majors Protheroe et Hillier sont tous deux diplômés du School of Public Health de l'Université du Michigan.

Cours du Collège de la défense civile. — Le lieutenant-colonel J. G. Butler et le major D. H. Hillier d'Ottawa ont suivi le cours d'initiation donné au Collège de la défense civile d'Arnprior (Ont.), du 6 au 10 mars, à l'intention des médecins et des dentistes.

Cours universitaires. — Les officiers dentaires dont les noms sont énumérés ci-dessous ont suivi dernièrement des cours post-scolaires à des universités canadiennes ou américaines. Ce sont:

Le major J.-D. Bourque, du Camp de Valcartier (P.Q.), un cours de chirurgie buccale à l'Université du Michigan d'Ann-Arbor (Mich.).

Le major H.-R. Kettys, des Casernes Currie de Calgary, un cours sur les couronnes et ponts à l'Université du Michigan.

Le capitaine W. A. Sugars, de la Station de l'A.R.C. de Saint-Hubert (P.Q.), un cours de radiologie à l'Université de Toronto.

Le major McKenna au U.S. Navy Dental School. — Au mois de février, le major H. E. McKenna, du 25e Dépôt central des magasins militaires à Montréal (P. Qué.) a suivi un cours de cinq jours sur les maladies périodontiques au U.S. Navy Dental School de Bethesda (Maryland).

CONGRÈS PROVINCIAL

L'ASSOCIATION DENTAIRE DE LA PROVINCE DE QUEBEC

à SHERBROOKE, jeudi, vendredi et samedi, les 25, 26 et 27 mai 1961

organisé sous les auspices de la Société Dentaire des Cantons de l'Est

Activités Scientifiques

Cliniques de table,
Films scientifiques
Conférences:

"Symposium sur la dentisterie opératoire à haute vitesse — Drs Hervé Deschênes, Jean Yergeau, Roger Grégoire, Zdenek Mész.

"Traitements chirurgicaux pré-prothétique"
— Drs Jean Nadeau et Antoine Raymond.

"Facteurs temps et mouvement en clinique"
— Dr Zoltan B. Nyeste.

Activités Sociales

Coquetels, banquets

Conférenciers: Dr Rémy Langlois, président du Collège; Honorable Jean Lesage, premier ministre de la province de Québec.

Activités Recréatives

Buffet, danse
Tournoi de golf
Visite du Camp Musical J.M.C. au Mont Orford.

Secrétariat du Congrès: 14 Brooks, Sherbrooke, P.Qué.

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JOURNAL

Benign Cysts of the Maxillary Antrum

H. G. POYTON, F.D.S., H.D.D.,* and D. W. STONEMAN, D.D.S.,**

Toronto, Ontario.

Benign cysts of the maxillary antrum are the primary concern of the ear, nose and throat surgeon and of no direct interest to the dentist; however, because of their high incidence¹ and since they are often seen with considerable clarity in dental radiographs³, the dentist should be familiar with and capable of recognizing these lesions.

Benign cysts originating in the antral mucosa fall into two categories, (1) secretory (mucocoele), and (2) non-secretory (mucous retention cyst).

The secretory cyst is rare and may be considered an inclusion cyst which is lined with epithelium and filled with mucus. They may grow to a large size, invade the orbit and cause deformities of the face¹.

Bret-Day reports a case of secretory cyst of the maxillary antrum presenting with buccal alveolar expansion resulting in a loose and uncomfortable complete

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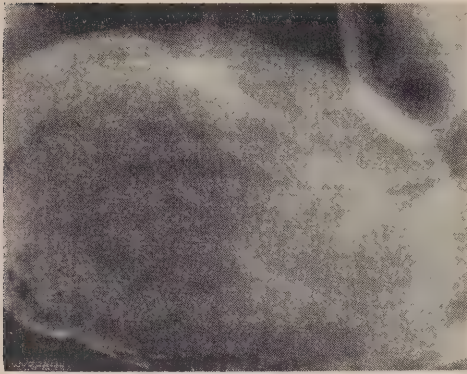


FIGURE 1

Intraoral radiograph showing a mucous cyst of the antrum.

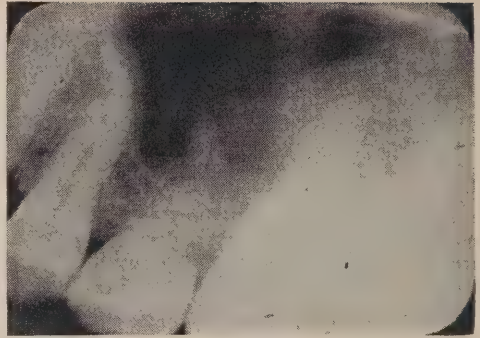


FIGURE 2

Intraoral radiograph in which the cyst is less easily identified.

upper denture⁴. Wright, however, states that the majority of cases are asymptomatic and are discovered through routine radiography and at autopsy⁵.

The non-secretory or mucous retention cyst results from an accumulation of tissue fluid in the tissue spaces and does not have a well-formed lining. It usually ruptures spontaneously before attaining any degree of size¹.

Skillern states that these cysts appear as single or multiple, semi-hemispherical, yellow or whitish protuberances on the wall of the antrum, varying in size from a millet seed to a walnut, and that on occasion they may completely fill the antrum². They are usually asymptomatic³ and exhibit no predilection for age or sex.

That they may occur anywhere in the antrum and also that they occur in edentulous mouths supports the premise that they are non-odontogenic in origin³. However, their occurrence in an area other than the base of the antrum is rare.

The large majority of benign cysts of the antrum which are seen in dental radiographs are mucous retention cysts, and it is, therefore, primarily to this condition that the following remarks apply.

RADIOGRAPHIC APPEARANCE

When these cysts are seen in dental periapical films, they are perceived as well-defined homogeneous, dome-shaped or hemispherical radiopacities arising from the floor of the antrum. The edge is smooth and definite, but the periphery is the same density as the rest of the lesion, thereby indicating that it is not covered by bone. The degree of opacity is such that it is often possible to see neighbouring tissues through it, and occasionally vascular grooves in the wall of the antrum can be seen superimposed on the lesion and continuing beyond the limits of the opacity (Fig. 1).

In cases in which the cyst is large, the edges may not be seen in a dental radiograph and the condition might readily pass unrecognized.

These lesions can also be seen in extra-oral radiographs, and the view which is most useful for this is the occipito-mental (Water's) projection. This projection is employed because the resultant radiographs show both antra and a comparison can be made. The appearance in this view

(Fig. 3) is a rounded homogeneous opacity in the base of the antrum with no associated mucosal thickening.

DIFFERENTIAL RADIOGRAPHIC INTERPRETATION

To be distinguished from benign cysts of the maxillary antrum are odontogenic cysts, osteomata and fibrous dysplasia.

Odontogenic Cyst—The normal appearance of the alveolar bone, the lack of a bony cortex of the cyst, and the continuity of the floor of the antrum contra-indicate an odontogenic cyst.

Osteoma—Benign cysts of the maxillary sinus can be differentiated from osteomata in that they lack the density of a bony tumour.

Fibrous Dysplasia — The smooth, rounded outline of the opacity and the

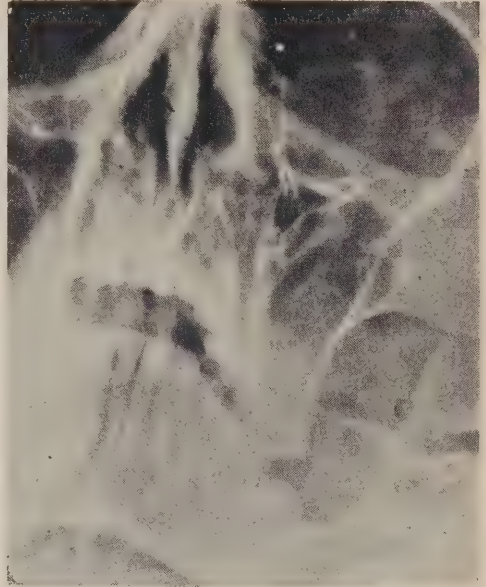


FIGURE 3

Occipito-mental view showing cyst.

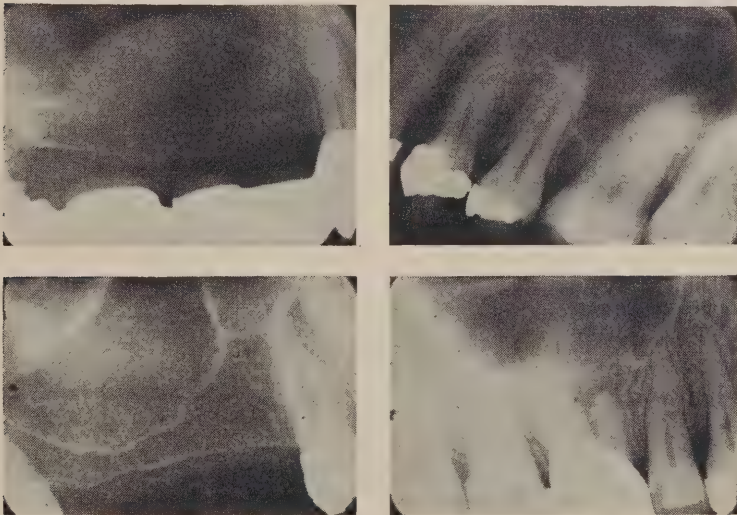


FIGURE 4

Four cysts discovered in routine radiographs taken in one month at the Faculty of Dentistry, University of Toronto.

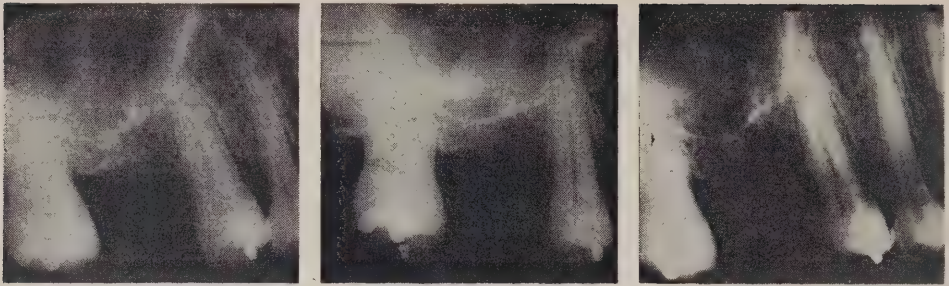


FIGURE 5

Three radiographs taken at two-yearly intervals. In the first, the appearance is normal; in the second, a cyst is present; in the third, there is no evidence of the cyst.

normal appearance of the alveolar bone are evidence against fibrous dysplasia.

CLINICAL ASPECT

In most cases there are no clinical signs or symptoms, but occasionally discomfort is felt in the region of the cheek of the affected side. In some instances where serial radiographs have been made over a long period of time, the cyst has been seen to persist without change in size, but in the majority of cases it has disappeared completely within a short period (Fig. 5).

Nearly all examples which have been first discovered in intraoral radiographs have been incidental findings in routine radiographic examinations.

In view of the apparent absence of clinical significance and the probability of spontaneous regression, it is suggested that the majority of these cases require no treatment.

RÉSUMÉ

Les kystes bénins provenant de la muqueuse du sinus se divisent en deux classes: les kystes qui secrètent (muco-

cèles) et ceux qui ne secrètent pas (muqueux).

Les kystes qui secrètent sont rares. Ils peuvent prendre des proportions considérables, envahir l'orbite et occasionner des difformités de la face. Ceux qui ne secrètent pas (les kystes de rétention) sont le produit de l'accumulation des sécrétions des tissus dans les espaces intercellulaires. Ils se rompent spontanément avant d'atteindre un volume considérable. Les radiographies périapicales montrent les kystes qui ne secrètent pas comme des masses radiopaques à contours précis, en forme arrondies ou sphériques prenant naissance au plancher du sinus. On peut les détecter aussi dans des radiographies extra-orales, surtout en se servant de l'angulation mento-occipitale (Water's). Il faut savoir différencier les images radiologiques des kystes odontogénétiques de celles des ostéomes et des dyplasies fibreuses.

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The Rationale of Post-endodontic Restorative Procedures

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Impressive impetus has been given to the concept of the preservation of tooth structure through the introduction of a vast array of improved therapies. Among the foremost has been root canal therapy which has been elevated to the status of a universally applied scientific procedure. Initially the devitalization of a pulp-involved tooth was a hit and miss expedient and was not governed by sound bioanatomical considerations. As the technique developed the percentage of successes increased. It has now become possible to predict a desirable result with confidence provided that certain basic principles are observed. However, even though the biological obstacles to healing have been overcome, many teeth correctly treated are ultimately extracted. Failure in these instances occurs as a result of the mechanical collapse of the coronal portion of the tooth rendering any type of restoration in that area impossible. This takes place because primarily there was an incomplete diagnosis resulting in an inadequate treatment plan which did not take into account salient specifics in the interrelationship between endodontics, prosthodontics, and operative dentistry. It has become mandatory to consider critically post-endodontic restorative needs together with the original treatment plan in order

to ensure completely satisfactory results.

Post-endodontic restorative procedures have become a study in themselves. Restoring an endodontically treated tooth and co-ordinating it with the rest of the dentition involves special considerations which are directly related to the distinctive nature of this type of tooth.

In what way is this type of tooth distinctive? The purpose of this article is to explore the answer to this question and to establish basic principles in the field of post-endodontic restorations.

The distinguishing characteristics of these teeth may be divided into two broad categories—biological and anatomical.

BIOLOGICAL CHARACTERISTICS

Following endodontic treatment the healing process takes place in the form of a periodontal and cemental resolution at the apices of the roots^{1,2}. Once healing is achieved the treatment may be regarded as successful and at that time any restorative procedure no matter how complex may be undertaken with impunity. The length of time required for healing is dependent upon the pathological condition of the tooth involved. In the

case of a tooth which had an adjacent rarified area it might be well to wait six months or longer until there is some radiographic evidence that the area is becoming reduced in size. Where the periapical bone is normal "no period of observation is necessary before proceeding with the restoration³." Thus the biological distinction that occurs at the root apices governs the time factor in evaluating post-endodontic routines.

A perusal of the literature fails to reveal any scientific evidence to indicate that there is any change in the composition of the enamel or dentine of a tooth after it has been devitalized. Clinical experience teaches that these teeth exhibit a fairly high degree of friability. Whether this is physiological in nature or solely the result of an altered anatomy only further research will disclose.

ANATOMICAL CHARACTERISTICS

The original need for root canal therapy implies a greater than average amount of destruction of the crown induced by either caries, or trauma. Superimposed on this condition there is additional operative removal of tooth tissue in order to gain access to the pulp chamber to perform endodontic treatment. Thus we have a tooth, whose original substance is reduced both pathologically and surgically in quantity and quality with an enlarged hollow core inducing fragility. Consequently the evaluation of post-endodontic restorative requirements is directly related to the amount of enamel and coronal dentine remaining.

The resistance value of this remaining healthy tooth tissue is in turn dependent upon the occlusal stresses that are brought to bear upon it. This factor must also be taken into account. A partial list of circumstances influencing occlusal stresses would include:

(a) the number of teeth missing from the mouth

(b) the maxillo-mandibular relationship

(c) occlusal habits

(d) the nature and position of the tooth involved

(e) the type of existing prosthetic appliances in the mouth.

This list is given to indicate the many considerations which must be reviewed in arriving at an intelligent treatment plan for these teeth. By correlating the elements stated above a rationale can be evolved in regard to an approach to the problems of post-endodontic restorative procedures. It has been remarked that the main distinguishing characteristics of these teeth lies in their comparative loss of tooth structure. Consequently, although provided with successful endodontic therapy the remaining tooth must be subject to careful analysis in the light of the bulk of tissue left supported and the occlusal demands which will be made upon it. From these considerations a decision as to adequate restorative measures should be made.

RESTORATIVE MEASURES

These measures can be divided into three general categories.

Class I Simple Restorations

In instances where the amount of tooth tissue loss is minimal and the occlusal factors are favourable an amalgam, silicate, gold inlay or gold foil may be the restoration of choice. An illustration of this would be a single proximal cavity in an anterior or posterior tooth in a mouth with an intact dentition.

Class II Extensive Coverage Restorations

In cases where the amount of tooth tissue loss is extensive and the occlusal

factors are either favourable or unfavourable it may be possible to protect the remaining coronal portion with either an M.O.D. onlay, a three-quarter crown or a full crown. An example of this would be a posterior tooth with both proximal surfaces involving an extended outline form and leaving a weakened buccal or lingual enamel wall, possibly aggravated by heavy occlusal stresses.

Class III Dowel Crown Restorations

In situations where the amount of tooth tissue loss is considerable and the occlusal factors are unfavourable, partial or complete reduction of the remaining coronal portion of the tooth and the construction of a dowel crown may prove desirable. Anterior teeth with severe proximal cavities leaving a badly weakened labial plate subject to adverse occlusal forces exemplify this category.

SUMMARY

An attempt has been made to outline general principles rather than to concentrate on specific instances. The human dentition presents an infinite variety of situations. General principles are guides and become clinical realities when they are correctly applied by the experienced dentist using his own good judgment. Although each case is unique, one thought predominates and this is that a definite margin of safety should be established to provide against any coronal breakdown subsequent to satisfactory therapy.

RÉSUMÉ

On peut commencer la reconstitution des dents qui ont été traitées par l'endodontie dès que leur apex est guéri, c'est-à-dire dès que la membrane péri-dentaire et le ciment ont atteint la dernière phase de l'inflammation: la résolution.

Le tissu de la dent, au cours du traitement, subit généralement certaines modifications: il diminue en quantité et en qualité; il devient friable. La résistance de la dent ainsi traitée est en rapport avec le degré du choc imposé par la dent antagoniste.

On peut diviser en trois classes les restaurations que peuvent supporter ces dents. La classe 1 comprend des obturations simples, où la perte de substance a été minime et quand le choc occlusal est faible; ces dents se prêtent aux restaurations d'amalgame, de silicate, d'incrustation en or et d'aurification. La classe 2 comprend des restaurations plus considérables, telles que des "onlays" MOD, des couronnes trois-quarts et des couronnes complètes. La classe 3 couvre les cas où il faut confectionner des corps coulés avec couronne complète, parce que l'occlusion est forte et parce que la couronne de la dent a été complètement ou partiellement avariée.

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A Review of the Management of Intraoral Cancer

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INTRODUCTION

Intraoral cancer may occur infrequently in the average dentist's experience, but it still accounts for 3 per cent of cancer deaths and 10 per cent of all new cases of cancer occurring in the province of Ontario. Much can and must be done for the problem of intraoral cancer and the dentist, because of the nature of his specialty is particularly involved in the solution. (1) Dentists are continually working in the mouth and have the unique opportunity of recognizing asymptomatic cancer or premalignant leukoplakia. (2) The pathogenesis of intraoral cancer is mediated in part by trauma to the oral mucosa by jagged, maloccluding teeth, and ill-fitting dentures — conditions which the dentist can recognize and correct. (3) It is frequently the dentist who is initially consulted by patients with symptoms of intraoral cancer, viz. intraoral soreness, bleeding, ulcer or tumour, dentures which have become ill-fitting, and loosening of teeth without a precipitating factor.

PATHOLOGY

To appreciate fully the approach and complexity of cancer treatment it is of importance to have some knowledge of intraoral tumour pathology.

Squamous-Cell Carcinoma comprises 85 per cent of the various kinds of intraoral cancer. Grossly, this type may present as a persistent ulcer, a large bulky mass, a papillary tumour or a submucosal thickening. Microscopically, one sees a classical picture of disordered epidermoid histology

which can be graded on the basis of mitoses, anaplasia, keratinization and epithelial pearls. These tumours are only moderately radiosensitive with the more anaplastic variant being most radiosensitive. (Fig. 1).

Lymphomas arise from lymphatic tissue and have a variety of histological features although lymphosarcoma predominates in incidence. Their overall occurrence in the mouth is rare but the sites most favoured are the nasopharynx and tonsil. Grossly, these tumours are smooth, round, bulky, submucosal lesions. They may be either localized or part of a generalized disease, and are highly radiosensitive.

Lymphoepithelioma is distinguished microscopically by the presence of cords of epithelial cells infiltrated by lymphocytes. Grossly, these tumours are grape-like, polypoid, rarely ulcerated and are found in the nasopharynx and tonsil. These tumours are markedly radiosensitive.

Minor Salivary Gland Tumours of varying histological patterns can occur anywhere in the mouth, but the hard palate and tongue are most frequently involved. Grossly, they are polylobulated, submucosal, and occasionally ulcerated. Even the benign variants which outnumber the malignant forms by two to one may be locally destructive¹². (Fig. 2).

BIOLOGICAL NATURE OF INTRAORAL SQUAMOUS CARCINOMA

The recent concept of "biological predetermination" has emphasized the indi-



FIGURE 1

A bulky squamous cell cancer of the tongue with central ulceration.

nodes have on prognosis. Sixty to eighty per cent of patients who present for treatment with a small primary tumour and no neck metastases will be alive at the end of five years³. On the other hand, only five to ten per cent of patients presenting with a large bulky primary tumour and either fixed or bilateral metastatic neck nodes will survive in five years' time³. This should be sufficient evidence to emphasize the necessity of early diagnosis. Unlike cancer elsewhere, intraoral cancer rarely disseminates throughout the body by way of the blood stream. Thus, in the majority of patients the lesion remains localized in the head and neck region. The patient in the terminal state of intraoral cancer is a sorry sight. He is usually malnourished and cachectic, cancer may

viduality of the behaviour of cancer not only from site to site and from type to type, but from individual patient to individual patient. Intraoral cancer also exhibits dissimilarities of behaviour. Some will stay localized for long periods of time while others metastasize early; some will resist all therapy regardless how efficiently executed, while others will respond readily to therapy even if "inadequate." However, by and large, there is a predictable sequence of events for the majority of intraoral carcinomata which not only permits one to anticipate prognosis accurately but institute therapy appropriately. Intraoral carcinoma will enlarge locally, invading adjacent soft tissue, bone, and vessels. Bone involvement, as a rule, precludes cure by radiotherapy. In a high proportion of cases, intraoral cancer eventually metastasizes to the ipsilateral lymph nodes of the neck and rarely contralaterally or bilaterally. The metastatic neck nodes then enlarge, invading the cervical viscera, blood vessels, and soft and bony tissue of the neck as well as overlying skin. It is of interest to pause here and reflect on the effect cervical



FIGURE 2

A malignant minor salivary gland tumour of the hard palate characterized by polylobulation and ulceration.

be fungating through his skin and, because of involvement of his trigeminal, glossopharyngeal, or cervical sensory nerves, may have intractable pain. Finally, death is usually due to malnutrition, strangulation or haemorrhage. The five year mortality rate for untreated intraoral cancer is 100 per cent².

AETIOLOGICAL FACTORS

Classically, intraoral cancer is a disease of the elderly white male³. It is also associated with (1) excessive use of tobacco, (2) alcoholism, (3) jagged teeth and ill-fitting dentures, (4) syphilis, or (5) exogenous and endogenous nutritional disturbances^{2,11}. These factors also contribute to the pathogenesis of leukoplakia, a premalignant lesion of the oral mucosa. Leukoplakia, grossly, is a white patchy mucosal lesion which may be flat, raised, or papillary and either localized or generalized in extent. The exact percentage of malignant degeneration in leukoplakia is obscure, but 50 per cent of tongue cancers¹¹ and 28 per cent of lip cancers¹⁰ have coexistent areas of leukoplakia. The treatment of leukoplakia lies in the elimination of the systemic and local irritants already mentioned. If the patch is small and accessible it can be excised. When ulceration or induration of the leukoplakia occurs, a biopsy should be done immediately to rule out cancer. However, regardless of ideal patient co-operation and treatment, leukoplakia rarely disappears. One hopes, nevertheless, that prompt treatment will prevent progression, or malignant degeneration. To reach this end, patients should be observed frequently for the purpose of detecting any change in the appearance of the affected mucosa¹¹.

FORMS OF TREATMENT

In a recent series, only about 30 per cent of patients with intraoral cancer

presenting for treatment were free of metastatic neck nodes and had symptoms of less than three months duration³. Cervical metastases, we know, markedly decrease the survival rate so that it is obvious that the basis of successful treatment is early diagnosis. This depends on a high index of clinical suspicion of any intraoral lesion, with its prompt biopsy. Once the diagnosis is established, treatment quickly follows in the form of either surgical treatment or radiotherapy or perhaps both. The breadth and the implications of therapy programs will be better appreciated when certain terms of reference in both surgery and radiotherapy become more familiar.

Radiotherapy.

To be successful radiotherapy⁵ depends on the delivery of cancericidal radiation to the tumour, which can be done in a variety of ways.

Local Radiation embraces the use of interstitial radium needles and radon seeds, as well as radium mould. These are all placed in contact with the lesion. This method delivers a high radiation dose in a small, circumscribed area. The technique must be meticulously carried out to prevent inadequate irradiation or damage to adjacent normal tissue.

Low-Voltage Therapy delivers x-rays at 50 to 100 KV and suffices for superficial lesions only.

High-Voltage Therapy delivers x-rays over a 200 to 400 KV range and has been the "work-horse" of radiotherapy. The incidence of damage by radiation here is relatively high.

Megavoltage and Supervoltage Therapy are recent expensive innovations which are said to reduce skin and bone damage while ensuring uniform distribution of radiation through its range of penetration.

Surgery

Wide local excision entails the removal of the primary lesion with microscopic and gross cancer-free margins.

Radical Neck Dissection is designed to remove metastatic neck nodes. All lymphatic tissue from the clavicle to the mandible and the anterior border of the trapezius to the anterior midline of the neck are removed along with the sternomastoid muscle, internal jugular vein, as well as the submaxillary gland and the tail of the parotid gland.

The Combined or Commando Operation combines a radical neck dissection, partial mandibulectomy and the excision of the intraoral primary lesion in one block of tissue. Occasionally, the mandible may be preserved. (Fig. 3).

Maxillectomy in varying degrees is executed for maxillary sinus or hard palate tumours and, in principle, is a wide local excision operation.

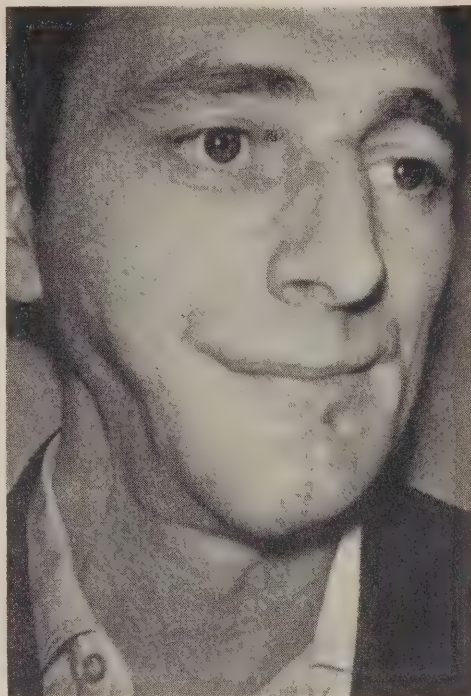


FIGURE 3

The cosmetic appearance in a good result following a Commando operation.

DISCUSSION OF TREATMENT

Radiotherapy is a time-honoured form of treatment, because, until the recent advances in blood transfusion, anaesthesia, and antibiotic therapy, extensive surgery was not safe. Radiotherapy offers the advantage of preserving function and cosmetic appearance. It can be carried out on an outpatient basis and occasionally may convert an inoperable lesion to an operable state. However, the duration of radiation therapy is usually one month during which time (1) tumour embolization may take place, (2) an operable lesion may become inoperable, and (3) the breadwinner patient's absence from work may result in economic hardship. Radiation not only affects neoplastic, but normal tissue as well. Patients undergoing radiation often

have sore, dry mouths which may lead to dysphagia and weight loss. In addition, radiated tissue sustains trauma poorly so that the radiation-failure patient coming to surgery bears the prospect of increased postoperative morbidity and mortality¹⁴. Skin and soft tissue ulceration may also occur⁶.

Osteoradionecrosis of the mandible¹³ is of particular interest to dentists. It is due to radiation sclerosis of vessels in the Haversian canals with consequent bone necrosis precipitated, usually, by infection. Dental extraction immediately before, during, or after radiation therapy for intraoral cancer is a prominent aetiological factor of this complication. If extractions are necessary, they should be

carried out with prophylactic antibiotics and in the presence of reasonably good oral hygiene. The patient with osteo-radionecrosis of the mandible usually has excruciating and persistent pain and presents clinically the picture of misery with his hand cupped to the offending part. If the area of the mandible so affected is small, one can try conservative therapy, consisting of mouth washes, oral penicillin and analgesics. If this fails, or if the mandible is extensively involved, excision of the affected portion is curative and results in a happy grateful patient.

In summary, a patient who is considered generally unfit for major surgery is also a poor candidate for curative radiotherapy which is, in its own way, radical.

Surgery in the head and neck region guarantees effective gross removal of all cancer tissue at one sitting if the lesion is operable. Surgical treatment programs even of major extent are of relatively short duration which permits rapid rehabilitation into normal life¹⁴. Also, major head and neck surgery is tolerated very well by the older patient since, unlike abdominal or thoracic surgery, there is little interference with gastrointestinal or respiratory function. The lesser procedures such as wide local intraoral excisions and partial glossectomy have a negligible morbidity and necessitate hospital confinement of short duration only.

However, when operation is performed for massive lesions, requiring combined operations with extensive mandiblectomy and soft tissue sacrifice, one can then expect marked cosmetic and functional disability. The more tongue and mandible excised for the cure of the particular cancer, the greater are the problems of drooling, imperfect speech, and difficulty in swallowing. Besides, every operation has a mortality rate, even though it is admittedly low for major head and neck surgery, being about one per cent¹⁴.

SELECTION OF THERAPY

The recent great advances in both surgery and radiation have resulted in better

treatment. However, today, as throughout the history of effective treatment of head and neck cancer, there is, in the literature, a multiplicity of treatment regimens—all with their own definite, distinguished, advocates. These briefly are classified into: (1) radiation of the primary lesion and surgical treatment of neck metastases², (2) radiation of both primary and secondary tumour¹¹, and (3) initial surgical attack on all head and neck lesions which at times necessitates primary commando procedures^{6,9}.

Each of the proponents of these various plans usually can advance convincing arguments for his approach and the truth may be that the various proponents have become equally successful through the perfection of a particular technique. The Memorial Centre group in New York City and others have embarked on markedly aggressive surgical programs not only because it is safe, but in an attempt to improve survival figures which have long been based on radiation therapy.

"Routines" or set plans of treatment, regardless of differences, promote a simplification of clinical approach to intraoral cancer. However, "routines" do tend to foster a rigidity in thinking which ignores the variability of site, and size of intraoral cancer and the advantages which may be derived by the patient through the flexible application of either surgery or radiotherapy or a combination of both of these disciplines⁴.

It is of the utmost importance to appreciate that intraoral cancer is a grave disease — *one in which 65 per cent of the victims will be dead within five years of the onset*². When viewed in this light, extensive surgery or radical radiotherapy, despite the morbidity and other disadvantages, are very much justified. Since recurrent cancer has a worse prognosis than primary cancer, "whoever first treats the cancer patient has the best chance of cure." The initial treatment must be vigorous and the surgeon who consistently carries out inadequate surgery "covered" by postoperative irradiation.

tion, subjects his patients to two rigorous treatment forms and undue financial punishment. The author would like to outline his approach to head and neck cancer treatment, with the purpose of indicating the advantages surgery and radiotherapy can offer in varying situations.

Radiation Therapy

In its various forms radiation therapy can be used for the treatment of (1) primary cancer whose excision would cause a disturbance of function and/or appearance, e.g. the soft palate, large bulky tumours of the tongue and floor of the mouth; (2) primary cancer in relatively inaccessible sites, e.g. the nasopharynx, base of the tongue, the tonsils; (3) primary intraoral lymphomas or lymphoepitheliomas; (4) primary cancer recurring after surgery which cannot be easily and effectively excised; or (5) neck metastases which are inoperable.

Surgery

A. *Wide local excision* is effective in dealing with (1) primary cancer which is small and accessible; (2) primary cancer involving or in close proximity to bone, e.g. alveolus, hard palate; (3) primary minor salivary gland tumours; (4) primary tumours recurring after radiotherapy.

B. *Radical neck dissection* is the method of choice in treating all neck metastases except in the patients who (1) have inoperable or systemic cancer; (2) cannot tolerate general anaesthesia; or (3) have a lymphoma, (unless the neck is the *only* site of lymphoma, in which case there is justification for a neck dissection.)¹¹

C. *The Commando procedure* is reserved for removal of (1) intraoral cancer (primary or recurrent) and metastatic neck nodes simultaneously; or (2) recur-

rent (post-radiation) bulky, primary cancer which would, technically, necessitate a mandiblectomy and a neck flap for its removal.

PALLIATIVE TREATMENT

It is apparent that there is a sizeable group of patients who present themselves with incurable cancer, either on initial consultation or due to a lack of response to therapy. This group not only is deserving of, but usually demands further treatment. One can never hope, of course, to achieve the self-satisfying goal of salvaging any of these people. However, one can and should strive to allay physical and mental pain and prolong life even if it is only for a few precious months. Denying possible treatment to the patient with a hopeless prognosis is not only cruel, but may drive the patient to an expensive odyssey in search of "a cure." The cultivation of a warm relationship with the patient and the provision of analgesics and proper nursing care are the first steps in palliative treatment. Radiation may give temporary benefit and failing this, intraarterial chemotherapy may be tried⁸. If these measures fail and the patient has analgesic-resistant intractable pain, then pain-relieving neurosurgical operations may provide satisfactory relief and comfort¹¹.

REHABILITATION

Treatment does not end with the operation. Maxillectomy and Commando procedures may cure cancer but they also leave the patient with problems in speech and chewing. It is here that the dentist makes a great contribution. Dental prostheses for maxillectomy and mandiblectomy patients may be difficult and challenging for the dentist but their achievement results in happy, dentally functioning patients. The technical aspects of these prostheses have been described by

the late Dr. A. Ackerman of the Memorial Hospital^{7,11}.

Surgical plastic reconstructive procedures have only a limited use in the head and neck cancer patient for a variety of reasons.

SUMMARY

Regardless of its relative accessibility and the contemporary improvements in its treatment, intraoral cancer continues to be a serious, lethal disease. By reviewing the management and other aspects of intraoral cancer it is hoped that this problem will continue to occupy the interest of the dental practitioner. In the light of our present knowledge, improvement in survival figures, lies in the prevention of leukoplakia and the detection of early small primary intraoral carcinoma. This is an area in which the dentist possesses an important role. Further, the dentist who is interested in prosthetic dentistry can be most instrumental in rehabilitating patients who have undergone extensive head and neck surgery.

RÉSUMÉ

L'auteur décrit les caractères pathologiques de l'épithéliome à cellules squameuses, du lymphome, du lympho-épithéliome et des tumeurs des petites glandes salivaires. Il cite les causes prédisposantes bien connues du cancer de la cavité buccale—l'usage excessif du tabac

et des boissons alcooliques, les dents rugueuses, les prothèses mal ajustées et la syphilis. Il compare les avantages de la chirurgie et ceux de la radiothérapie en se basant sur la métastase des tumeurs, la facilité de manipulation de l'une ou de l'autre méthode en clinique, le maintien de la fonction et les séquelles esthétiques.

Il souligne l'importance des traitements palliatifs pour les cas incurables et l'apport bienfaisant du prothésiste pour la réhabilitation des patients qui ont subi des interventions considérables au maxillaire supérieur ou au maxillaire inférieur.

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99 Avenue Road

DENTAL PUBLICATIONS OF CANADA

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CASE REPORT

Displaced Permanent Anterior Teeth

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The indiscriminate removal of permanent anterior teeth, damaged as a result of severe traumatic injuries, may be curtailed by conservative management. The purpose of this communication is to report a case where timely intervention, patience and perseverance achieved such a result.

On May 3, 1960, the patient, a young boy aged nine, was examined following a head-on collision with another youngster. There was a forty-five minute interval from the time of the accident until the patient was examined. Examination disclosed severe contusions to the upper lip and laceration of the labial gingivae extending from the distal point of the upper left lateral to the distal point of the upper right lateral incisors. There was fracture of the labial bony plate extending apically to the middle third of the roots, and laterally to the distal point of the upper left permanent central and the distal point of the upper right lateral incisors. The upper right lateral and both central incisors were so mobile that it appeared as if only a blood clot served as retention. Mobility of the upper left lateral incisor

was such that slight pressure resulted in displacement from the normal position of about 5 to 6 millimeters (Figure 1). Radiographic examination revealed definite bodily displacement of the four upper anterior teeth (Figure 2). No fracture of the root areas of the upper right lateral or central incisors was noted. However, the upper right central incisor revealed a form of dilaceration. The patient ex-



FIGURE 1

Patient at initial appointment.



FIGURE 2

Periapical radiographs at initial appointment.

perienced nausea, due to swallowing of blood and, perhaps, shock. Surprisingly enough there was very little pain.

Under the circumstances, the parents were advised that the prognosis was not good, but it was strongly recommended that an attempt be made to retain the injured teeth. The area was irrigated with warm saline solution. A heavy layer of tin foil was placed on the temporarily realigned teeth, to serve as a matrix, and a fast curing acrylic was flowed over the labial and lingual surfaces for stability. The patient was then immediately referred to a physician in connection with possible concussion; however the results of

medical examination were negative.

The following morning on May 4, 1960 at 9 A.M., the acrylic foil matrix was removed and pink base-plate material was moulded around the upper arch. A horseshoe shaped acrylic splint was fabricated from the base-plate material (Figure 3). The occlusal plane was inclined at an angle of twenty degrees in order to facilitate jaw closure as well as to permit some semblance of balanced mastication. The splint was seated with zinc-oxyphosphate cement. The patient was re-examined daily for one week, and fortunately it was found that he was able to tolerate the splint to a very pleasant degree from

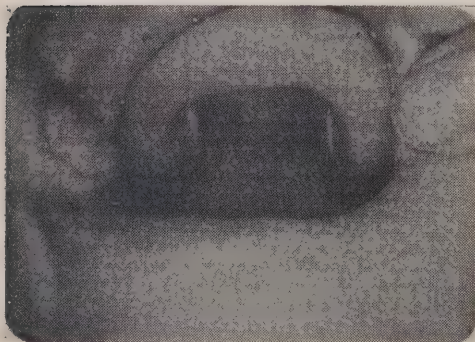


FIGURE 3

Horseshoe shaped acrylic splint.

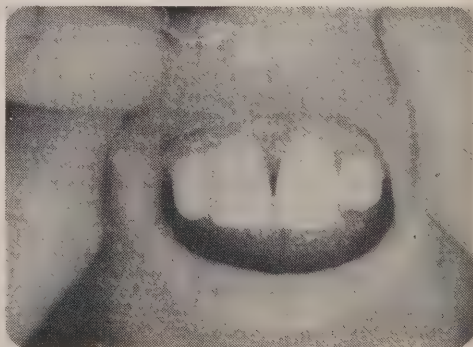


FIGURE 4

Oral condition a month and a half later.

the standpoint of speech and mastication.

On June 24, 1960 the acrylic splint was removed and the gingival height of the splint was reduced to prevent further irritation to the gingival tissues. Pulp vitality tests proved quite encouraging with number 7 readings for the central incisors, and number 6 readings for the lateral incisors being recorded on the vitalometer. These readings compared favourably with corresponding readings for the unaffected lower anterior teeth. By this time tooth mobility had been considerably reduced to a point where retention in the alveolar sockets was no longer a problem. Alignment also proved to be fairly acceptable (Figure 4).

On July 5, 1960 the acrylic splint was removed and a removable night-guard was inserted with instructions to the patient that this was to be worn at all times. The patient was also instructed concerning proper oral hygiene procedures and diligent gingival massage of the upper anterior segment.

On July 20, 1960 the patient was permitted to discontinue use of the night-guard except when at play and at bedtime.

On August 31, 1960 upon examination the gingival tissues appeared to be adapting to a normal state and contour. Alignment and colour of the teeth were excellent, and vitality responses were within normal limits. The affected teeth at this time were firmly in position, as were all the remaining teeth. The patient was able



FIGURE 5

Oral condition four months later.

to eat without any discomfort whatsoever.

SUMMARY

No definite conclusions can be drawn due to the short period of time which has transpired since institution of the treatment. However, this apparent remarkable recovery again draws attention to the potential recuperative powers of young healthy tissue. Even if, in the course of time, the vitality of the teeth is lost and resorptive processes take place, the time interval between the patient's traumatic experience and permanent restorative treatment will have been bridged.

139 Carmen Ave.

CANADA'S POPULATION

Canada's population reached an estimated 18,041,000 at January 1, 1961, representing a rise of 2.1 per cent from a year earlier and a gain of 12.2 per cent from the 1956 census count of 16,081,000.

Dominion Bureau of Statistics

ABSTRACTS

Present Orthodontic Thought in Germany

GUSTAV KORKHAUS, M.D., D.D.S., Bonn, Germany.

Nowadays there is a general demand for more penetrating recognition of the normal and the abnormal appearances in relation to function and surroundings. Anyone who understands the rule of constructive relationships will fully comprehend the appearance of an organ, irrespective of whether it is to be regarded as normal, of high functional value, or as abnormal, deformed, and pathologic. Anomalies have been termed "the outward appearance of abnormal function," and this applies with a fair degree of justification to many types of malocclusion, since it is often a fault in the function of the masticating organ that leads to an abnormal development.

Therefore, the comprehensive diagnosis of a dentitional anomaly cannot rest with the ascertainment and description of many individual details. This is, moreover, no real medical diagnosis, no recognition of the clinical symptoms present. It is, rather, merely the preliminary work—the diagnostic examination. The genuine diagnosis is provided only by the synthetic survey of the anomaly in question which must follow the analysis of the details.

It is only by summarizing and evaluating all the individual symptoms from the genetic, functional, and aesthetic aspects that full understanding of the whole make-up of the anomaly can be obtained. The diagnosis of the clinical case leads to a series of theoretic combinations, such as the duration, progress, and final state of the genetic development and the functional disturbances and cosmetic defects connected therewith, which will probably lead to the elucidation of further aspects of practical importance (constitution, individual type of reaction, etc.), and to the most appropriate (that is, the most adequate) kind of therapy.

This totality idea in orthodontics is a fortunate reminder of the fact that the therapeutic transformation of the dental arches and jaws is no mechanical matter but represents a biomechanical problem. Stress must be laid on the first syllable. This applies also to late orthodontic treatment. In the case of early treatment the biologic component, that is, the exploitation of natural growth tendencies, will always take precedence over aid by artificial means. In the case of orthodontic prophylaxis, it is the exclusive tool.

GENETIC CLASSIFICATION OF DENTITIONAL ANOMALIES

The possibility of a "genetic classification" (Kantorowicz, Korkhaus, Schwarz) grows in proportion to the establishment of our knowledge of the etiology and origin of the various kinds of dentitional anomalies. Nowadays we know exactly at which early stage of infancy the first deforming influences are exerted on the development of the jaw and the destructive part played by rickets as the basis of certain anomalies. The effects of bottle feeding, thumb-sucking, an inadequate masticatory function, or accidents during the change of dentition, especially when the first permanent molars appear and when the incisors erupt, are all known to us, and reliable observations about the regular effects of the premature loss of teeth on the development of the jaws are available. Since also the research on twins has placed us in a position to differentiate between hereditary and acquired characteristics, surely an adequate foundation is available on which a classification of dentitional anomalies according to genetic aspects can be built, although of course many individual questions may still require elucidation.

Upon primary investigation of the large groups of typical and constantly recurring anomalies, it will be found that these fortunately embrace a comparatively small and easily surveyed number of clinical symptoms. Among those predominantly due to *environmental* conditions are the compression anomalies and the stress deformities as well as the "results of loss of teeth during the development period of the jaw." Among the conditions predominantly due to *hereditary* causes are excessive overbite, progenia, and distoclusion. According to cautious estimates, these clinical symptoms, which are discussed in the following genetic classification, embrace more than 95 per cent of all cases referred for treatment.

Genetic Classification of Dentitional Anomalies

- I. Compression anomalies (predominantly due to environment).
 1. Compression of the jaw with protrusion of the upper incisors.
 - (a) Crowded.
 - (b) Spaced.
 2. Compression of the jaw with crowding of the incisors (inhibition of growth with persistence of the tooth germs in their primordial position). Both types of compression anomalies can be coupled with neutroclusion, distoclusion, and unilateral or bilateral cross-bite.
- II. Stress deformities: Open-Bite (predominantly due to environment).
 1. Open-bite due to sucking.
 2. Genuine open - bite (rickets) coupled with neutroclusion, distoclusion, or cross-bite.
- III. Consequences of loss of teeth during the Development Period of the Jaw. Premature loss of deciduous teeth, loss of permanent teeth (predominantly due to environment).
 1. Inhibition of growth of alveolar arch.
 - (a) In upper jaw: "false progenia."
 - (b) In the lower jaw: "false prognathia."
 - (c) In both jaws: "bi-alveolar retrusion."
 2. Tooth movements.
 - (a) Mesial movement by distal teeth.
 - (b) Distal movement by mesial teeth.
- IV. Progenia, genuine prenatal occlusion (predominantly hereditary) coupled with neutroclusion, mesioclusion, or cross-bite.

- V. Excessive overbite (predominantly hereditary) coupled with normal occlusion or distocclusion.
- VI. Monocausal anomalies (due partly to environment and partly to hereditary).
 1. Consequences of abnormal primordial position of tooth germs.
 - (a) Retention of teeth.
 - (b) Eruption at the wrong place (exterior or interior position coupled with persistence of the deciduous predecessor).
 2. Genuine diastema (persistent tectolabial frenulum).
 3. Aberrations in the number or size of teeth.
 - (a) Insufficient number of teeth or reduced size of teeth.
 - (1) As the result of phylogenetic reduction of the dentition (genuine shortage in number of teeth) or
 - (2) as a sign of a disturbance in the development of the ectoderm.
 - (b) An excessive number or size of teeth, duplications. (1) As a retrograde phylogenetic process ("supernumerary teeth"—genuine excess in number of teeth) or (2) separation from the dental lamina at the sutura palatina or incisiva (dentes emboliformes).
 - (c) Disproportion in size between the upper and lower teeth.
 4. Disproportion between production of the lamina and of the substance of the jaw.
 - (a) Too much dental substance/
 - too small a basal arch (bi-alveolar protrusion).
 - (b) Insufficient dental substance/ large basal arch (spaced denture).
 5. Disturbances in the eruption.
 - (a) Of the first molars (semi-retention).
 - (b) During the change of incisors.
 - (c) During the change of lateral teeth.
 - (d) Of the second and third molars.
 6. Consequences of trauma at birth, injuries, cicatricial, formation of clefts, diseases of the mandibular joint, endocrine disorders (macroglossia in acromegaly), infantile osteomyelitis, tumours, etc.

A classification of the kind described, which is based on our present knowledge of the genetic relationship of dentitional anomalies, naturally cannot be complete and final, since our knowledge is constantly being supplemented. Changes and improvements must necessarily be made to keep in step with every advancement in our knowledge. The progressive and surely welcome attitude, which no longer merely measures but also evaluates, which does not go too far into details but understands the whole of an aberrant development, which treats not only fully developed single symptoms but combats the syndrome of clinical symptoms either prophylactically or with simple appliances if the case is in an early stage, speaks in favour of the genetic approach to orthodontics on which this classification is based.

Disinfection, Antibiosis and Sterilization in Modern Dentistry

SOL HABERMAN, *Ph.D., Dallas, Texas*

CHEMOTHERAPEUTIC AGENTS

Substances used in the treatment or prevention of infections are referred to as "chemotherapeutic agents" which include compounds of a synthetic nature (such as sulfonamides, arsenicals, and mercurials) and those of biological origin such as quinine and penicillin.

Since the discovery of penicillin there have been scores of antibiotics described and produced for use in treatment of infectious diseases. Most of these have been obtained from molds, bacteria, and higher bacteria of the *Streptomyces* group. Unfortunately many of the antibiotics are not only toxic to bacteria, but they are also toxic to humans, thus limiting their usefulness. However, a number of antibiotics have little or no toxicity, whereas others have harmful qualities of a low order which permits their judicial use in proper concentration in selected cases. Many of these antibiotics have a wide spectrum of activity, but none have been found so far that affect all bacteria. Most antibiotics exert a bacteriostatic effect whereas some show bactericidal qualities when used in sufficient concentration.

With the development of these new therapeutic agents, new testing techniques were devised to test the sensitivity of the bacterial invaders to the many antibiotics available. With these testing methods, the clinician may select the antibiotic of

choice for the treatment of his particular patient rather than guess which available therapeutic agent might be desirable. This has led to the scientific selection of antimicrobial drugs in the treatment of disease. These methods of medicine are also applicable to the infections found in dentistry.

DISINFECTANTS

Factors which influence chemical disinfection are as follows:

1. The inhibition or killing of microbial life is directly dependent on the concentration of the compound being used. If the agent is too dilute, it may produce no desirable results, and if too concentrated, the effect produced may either be undesirable or possibly its use is impractical.

2. A second factor that exerts a profound influence on germicidal action is the time of exposure of the organisms to the chemical.

It should be noted that time and concentration are interdependent. For example, the time required for the killing effect decreases with an increase in concentration, and the time needed increases with a lessening of the concentration.

3. A third influence on disinfection by chemical means is the effect of temperature. As the temperature is raised, the rate of death is increased.

4. As a fourth influence on chemical disinfection, the nature of the medium in which the disinfectant acts might be considered. The presence of water in the medium acts to promote killing, as water is a vehicle for transport of substances into and out of the bacterial cell.

The mode of action of chemical or "cold" disinfecting agents may be classified as follows:

1. *Hydrolysis of cellular material.* This effect is accomplished by strong acids and alkalis. The Mineral acids, such as sulfuric, nitric and hydrochloric acid, act in proportion to their ionization as killing agents. In the case of the alkalis, the concentration of the hydroxyl ions in solution governs the lethal effect. In both, the end result is hydrolysis of the bacterial protoplasm and dissolution of the cell.

2. *Mechanical disruption.* Ordinarily this type of destruction is accomplished by the grinding effect of a ball mill or the disintegrating effects of supersonic vibration. In the case of chemical disinfection, plasmolysis of cells may be accomplished by the osmotic changes brought about by strong sugar and salt solutions.

3. *Antiseptic dyes.* A number of the dyes of the aniline and other types have exhibited a selective action on bacteria.

4. *Gaseous agents of disinfection.* For many years gaseous formaldehyde, sulfur dioxide, chlorine and hydrogen cyanide have been used to disinfect rooms that have been occupied by patients having contagious diseases. The use of such agents has declined in the past years. However, with the advent of plastics and other material that have use in medicine and dentistry, a means of terminal disinfection other than by heat came into demand. This has been met by the alkylating agents such as ethylene oxide, ethylene amine and methyl bromide. These

compounds when used as gases have been unusually successful in killing spores as well as vegetative bacterial cells. The studies on ethylene oxide show that their use must be carried out with care as the gas is explosive and therefore not applicable as yet to office practice.

5. *Oxidizing agents.* The most common oxidizing agents are the halogens such as chlorine, bromine and iodine. These act as oxidizing agents and are very potent.

6. *Phenolic and related compounds.* Since Lister used phenol (carbolic acid) for antiseptic surgery, phenols and phenolic compounds have been broadly applied as disinfection and sterilization agents. In addition, phenol is used as the standard for comparison with other disinfectants. In dilute solution, phenol acts on essential enzyme systems of bacteria and the higher concentrations disrupt the cell wall and precipitate the protoplasm in the manner caused by strong acids. Unlike many other disinfectants, organic matter has little influence on the anti-

7. *The bis-phenols.* These compounds are composed of two phenol rings attached by various linkages which have distinct antibacterial and antifungal effects. As was found with the phenol derivatives, the addition of chlorine to the phenol rings increased this bactericidal action. Some of these, like dichlorophene, were most useful as anti-mildew agents, while hexachlorophene was used as an additive for soap to be used to disinfect skin.

8. *The quaternary ammonium compounds.* These cationic surface active agents have bactericidal capabilities and have been used as disinfecting solutions. The more commonly used members of this group are Zephiran, Phemerol, Ceepryn and Cetab. Unlike the bis-phenol group, the bactericidal action of these agents is interfered with by soaps and fatty materials. Consequently, instruments to be disinfected by these should be washed and

rinsed before immersion into the quaternary ammonium compounds. The best results occur with the gram-positive non-spore formers, whereas the action against gram-negative rods of the coliform and noncoliform types is weaker.

9. *Salts of heavy metals.* Compounds containing mercury are among the oldest of disinfecting agents, being first used by the early Arabian physicians to prevent sepsis. For some time it was thought that mercuric bichloride was a bactericidal compound that could destroy spores. Recently, however, it has been shown that mercurials in the concentrations recommended for use do not kill spores, and their main action is that of a bacteriostatic agent.

10. *Oligodynamic metals.* It has been observed that small amounts of metallic ions in solution have an antibacterial effect. This has been observed especially with silver, and to a much lesser extent with copper, gold, aluminum, tin and iron. The metallic ions are rapidly absorbed and act as a protoplasmic poison and anti-enzyme. The enzymes can be restored by the removal of the metallic ions.

11. *Sulfonamides.* The discovery that the active principle of Prontosil was sulfanilamide opened a new field of chemotherapeutic research. Many forms of the so-called "sulfa-drugs" have been developed, some with less toxicity and more solubility. The action of these compounds is bacteriostatic rather than bactericidal in nature, with the main effect being on enzyme systems of susceptible organisms.

12. *Chemotherapeutic agents for Mycobacteria.* Studies on the metabolism of

members of the *Mycobacteria* have led to some new therapeutic approaches for tuberculosis and leprosy. It was found that the tubercle bacillus metabolized benzoic and salicylic acids. This led to the study of similar compounds that could be used to block this metabolic pathway. As a result, para-aminosalicylic acid (PAS) was found to be an effective therapeutic agent which could be given to patients.

13. *Antibiotics.* Numerous antibiotics have been developed from various soil bacteria and fungi. Most of these have selective effect on the bacteria commonly found in the oral cavity, but none of them has either bactericidal or bacteriostatic effects on all. Their selective action on the various organisms is referred to as their antibiotic spectrum. Unlike the sulphonamides, the antibiotics show inhibition of bacteria in the laboratory as well as in the patient. Because of this, laboratory tests have been developed to aid in the selection of the specific antibiotic for treatment of pathogen involved in the infection. This test is called the antibiotic sensitivity test.

The mode of action of antibiotics on bacteria are either bactericidal as demonstrated by penicillin and streptomycin or by bacteriostasis as shown by chlor-tetracycline, oxytetracycline and chlor-ampenicol. In dilute solution the principal effect is inhibition.

Such a discussion could be summarized by pointing out that chemical disinfectants are poor killing agents when compared with sterilization by heat. Therefore, whenever possible, autoclave or dry oven sterilization should be the routine of the office.

EDITORIALS

The Future of Dental Auxiliary Personnel

By article 3.6 of the policy statement on Projection of Dental Services in Canada, adopted by the Canadian Dental Association at the annual meeting in Ottawa last year, the Association subscribes to:

"Increasing the number of dental auxiliaries and expanding the services they are legally permitted to render."

Article 4.3 of the same statement suggests that:

"Properly qualified and recognized dental auxiliaries could be trained to render a broader scope of service than that presently recommended.

The training of these new auxiliaries must be at the direction of the dental profession and should be given at a recognized dental school.

The services that these auxiliaries are qualified to render must be included in the prescribed teaching program, and must be under the direct supervision of a qualified dentist.

The services must not include those operations requiring the scientific knowledge of the fully qualified dentist (e.g. case assessment, cutting or severing of hard

and soft tissues, the administration of drugs, the making of prescriptions) but should include many of the technical operations and technical parts of operations for which purpose auxiliary personnel has been adequately trained."

These measures are part of the policy adopted by the Association to meet the growing demand for dental care in ways which will provide high quality dental service at reasonable cost.

At a recent workshop conference conducted by the Royal College of Dental Surgeons of Ontario to determine the specific services which might lend themselves to delegation, the majority of those in attendance expressed themselves as opposed to the whole principle. From the tenor of the discussions there seemed to be doubt in the minds of many delegates respecting any actual increase in the effective demand for dental care. Moreover, many participants clearly feared potential dismemberment of the profession as a result of the inability to control a broader spectrum of services on the part of such auxiliaries.

A good many dentists sincerely believe that the present and future anticipated dental care requirements of the public can be better met by a modest increase in the number of dentists. They hold that the present situation does not warrant a change in the traditional pattern of rendering dental care, that the changes proposed by the Canadian Dental Association would inevitably lower the standards of care, and ultimately open the gates to an uncontrollable flood of self-proclaimed therapists. This viewpoint, however, is founded on several false premises.

There are now fifty-five requests on file at the Faculty of Dentistry, University of Toronto from various Ontario communities seeking a resident dentist. It is granted that some of these come from centres which may not be able to support a dentist in full-time practice. Nevertheless, this list provides tangible evidence of an unsatisfied demand for dental care in the province with the most favourable ratio of dentists to population.

It has been shown, on the basis of projected population estimates that in addition to our present capacity, a further 133 dentists a year, commencing in 1968, will be required in Canada to maintain a level of service commensurate with a ratio of one dentist to 2,500 population. Two or three more moderate-sized dental schools would be required for this purpose and planning for these schools should be underway right now.¹ However, there is no indication whatever that timely action will be forthcoming from appropriate government sources and grounds for optimism on this score are totally lacking.

Latest events in Alberta graphically illustrate what happens when a third party takes advantage of the growing public pressures for dental care which cannot be solved in time by traditional methods. Hitherto untrained and unlicensed persons, having enlisted the sympathy of a sizable proportion of the Alberta elector-

ate and legislature, will gain the right to render prosthodontic services directly to the public effective July 1. Did the profession recognize these pressures too late?

By any standard realistic answers are needed to meet the legitimate dental care needs of our growing nation. One method is to broaden the scope of activity of dental auxiliaries. This concept recognizes the valuable services which can be performed by properly and adequately trained auxiliaries, integrated under the supervision or direction of a fully qualified dentist who assumes full responsibility for the services rendered. The economic adaptation of this principle to private dental practice presents a challenging area for imaginative experimentation.

Certainly there are inherent risks in giving effect to such a measure. But these risks are common to any occupation where a division of work has taken place. It is up to the dental profession to give the leadership and direction which will reconcile the concept of expanded auxiliary services with the essential requirements of public protection, quality of care, professional judgment, and professional freedom.

We cannot afford to close our eyes and ignore the existing social pressures. Already there is the uneasy feeling that the public image of the dentist has become more than slightly tarnished, judging by the various news media and the public press. Events are moving more swiftly than many dentists may realize. Referring to the need for medical care at an economic cost, René Lévesque, Minister of Public Works of the province of Quebec recently made this pointed observation: "I ardently hope the initiative will come from the (medical) profession itself. If not, (the profession) will be confronted with an accomplished fact."²

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Preschool Registration and the Dentist

Some time between Easter and the summer holidays a good many local health departments and school boards throughout Canada jointly organize campaigns to register and to establish administrative and health records for the benefit of children about to enter kindergarten in the fall. Originally conceived for the purpose of relieving pressure on school authorities in the fall when mass promotion from one grade to another, the recommencement of the regular classes, and the attendant administrative chores present a considerable burden, this roundup and registration of preschool children during the spring has been enthusiastically embraced by local health department personnel. Where preschool registration is organized on an individual appointment basis, the principal interviews and registers kindergarten entrants on predetermined dates.

Simultaneously or several days later, the school public health nurse interviews parents and the child to open appropriate health records. This interview is unhurried and permits the nurse to obtain all the necessary information concerning past health history which could have a bearing on the child's performance at school. Frequently kindergarten entrants are required to have a complete physical examination, preferably from their family physician, before starting school. This can be arranged by the parents so that the required information is returned from the physician before the commencement at school in September.

With the growing number of local dental public health programs in Canada, public health dentists and dental hygienists are displaying increased interest in preschool registration activities which present a valuable opportunity to influence parents through teaching and dem-

onstration and to encourage any necessary dental corrections prior to commencement at school during the fall. In certain health departments and health units offering educational and diagnostic dental services, a dental hygienist accompanies the school public health nurse to the health interviews. Following her own interview, the nurse introduces the mother to the dental hygienist who in turn interviews her and inspects the child's mouth. The purpose of such dental interview and inspection is threefold: (1) to detect obvious dental defects in the child's mouth and demonstrate these to the parent, (2) to urge correction of the defects before school commencement in September, preferably by a family dentist, and (3) to alert parents to the necessity for regular dental supervision, the importance of primary teeth, adequate nutrition, correct oral hygiene practices, etc. A prime purpose of the dental interview is to promote better utilization of the family dentist. The value of establishing a permanent relationship between the child and his own dentist is invariably stressed from the standpoint of the child's adjustment to dental treatment and the necessity for recall service at periodic intervals. Nothing is more detrimental to the establishment of a lasting favourable patient-dentist relationship than if the parent defers the initiation of systematic dental care until compelled to do so by virtue of an acute emergency experienced by the unfortunate child.

In areas where dental public health personnel have participated in preschool registration, practising dentists have responded well by providing any necessary treatment. Rather than be deluged with large numbers of kindergarten children referred for dental attention early in September, the dentist appreciates a plan

which spreads the load more evenly over a period of time and enables him to devote his skill and attention to parents and children who have been preconditioned to seek and accept paedodontic care.

By his prompt return of a child's dental referral card, the dentist assists public health and school authorities in maintaining up-to-date records on the dental status of children coming under the super-

vision of these authorities. By his collaboration in these activities, the dentist renders a valuable service to the child patients in his practice, he discharges an important public health obligation and he strengthens the public relations of his profession. With the approach of another spring, it is timely that the dentists of Canada direct their thoughts to the kindergarten entrants of 1961.

DENTAL PUBLICATIONS OF CANADA

The Journal of the Ontario Dental Association is published at 230 St. George Street, Toronto, Ont., by the Ontario Dental Association. The "Journal" appears monthly. Dr. A. W. Lindsay is the editor.

The Nova Scotia Dental Association News Letter is published at Suite 21, 353 Bayers Road, Halifax, N.S., by the Nova Scotia Dental Association, Dr. J. E. Merritt, 33 Connaught Avenue, Halifax, is the editor. The N.S.D.A. News Letter appears six times a year.

The "Dental Health Newsletter" is published by the Dental Health Division of the Department of National Health & Welfare, Ottawa, Ont. T. C. Rogers is the editor and Dr. H. K. Brown is the Dental Consultant. The "Newsletter" appears three times a year.

"Oral Health" is published by W. W. Seccombe Publications at 443 Mount Pleasant Road, Toronto, Ont. Oral Health appears monthly. Dr. J. H. Johnson is the chairman of the editorial board.

"News and Views" is published at 1509 Sherbrooke Street West, Montreal, Que., by the Montreal Dental Club. The first issue of this publication appeared in August 1960. Dr. P. L. Samis is the editor.

"Informations" is published as a bilingual communication at 2285 Avenue Papineau, Montreal, Que., by the College of Dental Surgeons of the Province of Quebec. Dr. R. M. LeBlanc is the editor. "Informations" appears several times each year.

"The Mirror" is published at 217—925 West Georgia Avenue, Vancouver, B.C., by the Vancouver & District Dental Society. Dr. S. B. Smordin is the editor. The Mirror appears several times each year.

BUREAUX, COMMITTEES AND COUNCILS

Radiation Resulting from the Use of X-ray Machines

Council on Research

The following statement was originally prepared by the Council on Research and published in the *Journal of the Canadian Dental Association*, Volume 24 — No. 7 — July 1958. Because its importance to every practising dentist warrants its repetition, the statement is reprinted herewith.

The value of the x-ray as a diagnostic aid in dental practice cannot be questioned. However, because of the increasing use of the x-ray, and because of the increased exposure of the public to radiation from other sources, the dental profession owes it to the public and to itself to review its practices in connection with the employment of the x-ray and to make an effort to reduce the hazards in this connection where feasible.

Radiation hazards resulting from the use of the dental x-ray should be considered as they relate to both the operator and to the patient, and these dangers in each instance may take three possible forms. First, the skin surface may be exposed to sufficient radiation to cause a burn or erythema. Second, deeper tissues, particularly bone marrow and lymphatic tissue may be affected adversely by the radiation, resulting in a leukaemia or other blood cell disease. Third, radiation to the gonads may produce mutations within the developing germ cells, resulting in harm to succeeding generations.

Danger to the operator emanates both from direct exposure to the x-ray beam, and from scattered radiation from the patient's face and nose cone on the machine. Provided reasonable care is exercised (i.e. avoiding standing in the direct beam when the machine is on) the danger to the operator appears minimal. Exposure to scattered radiation can be markedly reduced by increasing the distance between the operator and the patient while taking radiographs. That is, the timer cord should be as long as possible.

In regard to the patient, it appears that during normal routine use of the dental x-ray the danger of producing an erythema to the facial skin is very slight and that radiation reaching the gonads does not seem to be a very serious hazard either, since it is only 1-3 per cent of that from natural background. However, it should be noted that there is no threshold dose for producing mutations in the developing germ cells. On the other hand, the marrow exposure from dental x-ray is high, and this appears to be the most serious factor limiting the use of the machine. Since the exposure threshold for causing alterations to developing blood-forming cells of bone marrow or lymphatic tissue is unknown, it must, at this time, be assumed that *any* dose in addition to normal background radiation is potentially dangerous, and every effort should be made to reduce these exposures to an absolute minimum.

The hazards to the patient can be greatly reduced by simple modifications to either the machines or the techniques which are generally in use, as follows:

1. Pure sheet aluminum should be placed between the x-ray beam source and the patient. The added aluminum should be sufficient to make the total filtration equivalent to about 2 mm. of aluminum. (The amount added varies with each type of machine, each having some inherent filtration which can be ascertained from the manufacturer. Adequate added filtration will, on the average, reduce the skin (and marrow) dose by about 50 per cent).

2. A lead diaphragm should be placed between the beam source and the patient to ensure that the area of the skin surface radiated at each exposure is not more than $2\frac{3}{4}$ inches in diameter. Depending on the area of skin exposed by the machine without a diaphragm (this varies from about $4\frac{1}{2}$ inches to $3\frac{1}{2}$ inches) the skin or marrow dose can be reduced by an additional 38 to 68 per cent by this means.

3. A technique should be employed which will make use of the fastest film now procurable. Depending on the film presently

employed, this can reduce the patient exposure by another 66 per cent or more.

If each of these safety measures is adopted the amount of exposure of patients to radiation from the dental x-ray machine can be reduced by as much as 95 per cent without reducing the diagnostic value of the films.

In addition to this, if one of the newer dental x-ray units operating at 90 kilovolts (rather than 65 K.V.) is employed, an additional reduction of about 28 per cent in facial radiation dose can be achieved.

Proposed Future Activities of the Canadian Dental Research Foundation

Council on Research

The Canadian Dental Research Foundation was incorporated under a federal charter on May 17, 1920 to support investigation, study and research in connection with oral defects and disorders, and all other matters pertaining to the science and practice of dentistry. In view of the expansion in dental research activities in Canada within the last decade, the Council on Research, following a careful review of the activities of the Canadian Dental Research Foundation, proposes a new and important role for this organization.

It is suggested that dental research in Canada could be well served if a central office were to be established to act in an advisory capacity to co-ordinate effort, avoid unnecessary duplication, and in general to stimulate the development of further research in dentistry. Such an office would serve as a source of information for dental research workers who need financial or other assistance; as a source of information for government or other agencies concerning dental research; and as a liaison between the dental research and other biological research activities in Canada.

Since this type of assignment falls within the original stated purposes of the Canadian Dental Research Foundation, and since the activities of the Foundation remain closely allied with those of the Canadian Dental Association (the Council on Research is the

board of directors of the Foundation), it is proposed that the Canadian Dental Research Foundation carry out these duties.

To do this, it is suggested that the Canadian Dental Research Foundation:

1. Compile and maintain a central file containing current information concerning

- (a) sources of research funds available to Canadian dental research workers, and the regulations governing award in each case;

- (b) sources of special funds (e.g. Foundation, etc.) that might support special projects in dentistry;

- (c) the annual expenditure in support of dental research in Canada and the geographic distribution of the funds;

(d) the annual expenditure for other biological research support in Canada and the geographic distribution of the funds;
(e) a list of dental research personnel in Canada, their qualifications, fields of interest, etc

2. Prepare a résumé of the development of dental research in Canada, and maintain it up to date each year.

3. Encourage appeals for funds to support dental research in general, and to continue efforts to increase the capital funds of the Foundation itself.

4. Assist dental institutions in initiating research programs by providing information as to funds, organization, etc., or where Foundation funds are available, permit already established workers to visit and advise on the scene.

To enable the Foundation to be acquainted as fully as possible with dental and other research in Canada, request should be made to the following organizations that the president of the Canadian Dental Research Foundation be appointed as

(a) ex officio member of the Council on Research of the Canadian Dental Association.

(b) ex officio member of the Associate Committee on Dental Research of the National Research Council of Canada, and

(c) dental representative at meetings of the Interdepartmental Medical Research Coordinating Group. This group is comprised of representatives from the Department of National Health and Welfare, the Department of Veterans' Affairs, the Defence Research Board, the Medical Research Council and many other national voluntary health agencies.

Fluoridation in Canada, 1961

Bureau of Economic Research

Almost four times as many people are drinking fluoridated water now as five years ago. In Canada as a whole, the population affected by fluoridation has increased by 980,000.

Fifteen more municipalities began fluoridating their water supplies during 1960. Five of these municipalities are in Saskatchewan. Of the five, all but Prince Albert initiated the measure by council action. A vigorous contest preceded the Prince Albert plebiscite. The result was favourable to fluoridation by a majority of approximately 250. In addition, Estevan and Rouleau have voted in favour of fluoridation but their plants are not yet in operation.

In Manitoba, four communities with a combined population of 14,700 were added to the list of fluoridating municipalities. No plebiscites were held in these municipalities. Three more communities are now in the process of adopting fluoridation.

Alberta has one, and British Columbia

three more municipalities fluoridating their water. In British Columbia, three plebiscites were held in December, 1960. Unfortunately, none of the three was successful. Quebec has two more fluoridated communities this year. No plebiscites were held in the province during 1960.

The Ontario Fluoridation Investigating Committee tabled its report on February 21, 1961. The committee gave complete support to fluoridation and recommended that legislation be enacted to enable municipalities to fluoridate their water without holding plebiscites.

No progress was made this year in the maritime provinces or in Newfoundland. A plebiscite was held in Charlottetown, Prince Edward Island but fluoridation was defeated by 1,540 votes to 1,513.

The co-operation of the provincial dental directors in providing this information is gratefully acknowledged.

TABLE 1 Municipalities with controlled fluoridation, January, 1961.

Province	Municipality	Date Started	Population Affected	Total Provincial Population Affected
Newfoundland				
Prince Edward Island				
Nova Scotia				154,500
	Halifax	June 11, 1956	110,000	
	Dartmouth	July 3, 1956	35,000	
	Kentville	Feb. 16, 1956	6,500	
	Wolfville	May 1959	3,000	
New Brunswick				
Quebec				142,786
	Acton Vale	Dec. 17, 1960	4,500	
	Beaconsfield		8,900	
	Berthierville	May 1960	4,700	
	Dorval	Feb. 1956	16,177	
	Duvernay	1958	7,000	
	Joliette	1957	18,009	
	Laval des Rapides	1958	16,000	
	Pointe Claire	Feb. 3, 1955	20,000	
	Pont Viau	1958	14,000	
	L'Abord à Plouffe		12,000	
	Rock Island	July 1958	4,000	
	St. Vincent de Paul	1958	6,000	
	St. Martin		11,500	
Ontario				239,332
	Brantford	June 20, 1945	53,616	
	Brockville	Feb. 18, 1956	17,124	
	Deep River	Dec. 9, 1952	5,130	
	Fort Erie	Jan. 18, 1952	8,897	
	Oshawa	Feb. 26, 1953	60,135	
	Sudbury	Aug. 20, 1952	77,356	
	Thorold	Feb. 12, 1952	8,602	
	Tisdale Township	Oct. 3, 1955	8,472	
Manitoba				516,940
	Boissegvain	Jan. 13, 1957	1,215	
	Brandon	Mar. 7, 1955	28,500	
	Dauphin	Jan. 4, 1960	7,800	
	Greater Winnipeg	Dec. 28, 1956	460,000	
	Killarney	Sept. 14, 1960	1,534	
	Minnedosa	July 7, 1960	2,406	
	Portage la Prairie	Jan. 13, 1958	12,525	
	Steinbach	May 1960	2,960	
Saskatchewan				174,847
	Assiniboia	May 1953	2,077	
	Eston	Sept. 1957	1,537	
	Kamsack	July 1959	2,728	
	Kindersley	Feb. 1959	2,445	
	Melville	Feb. 1960	5,112	
	Montmartre	Oct. 1960	465	
	Moose Jaw	Dec. 1952	32,401	
	Prince Albert	Feb. 1960	21,875	
	Rosthern	May 1960	1,258	
	Saskatoon	July 1955	82,817	
	Swift Current	Oct. 1954	11,338	
	Tisdale	May 1960	2,016	
	Weyburn	Mar. 1955	7,210	
	Wynyard	Aug. 1956	1,568	

continued on following page

TABLE 1 (continued)

Province	Municipality	Date Started	Population Affected	Total Provincial Population Affected
Alberta	Devon	Aug. 6, 1959	1,512	31,037
	Fairview	Mar. 4, 1958	1,448	
	Grande Prairie	July 8, 1959	7,410	
	Innisfail	June 10, 1960	1,905	
	Red Deer	June 10, 1958	18,762	
British Columbia	Burns Lake	Feb. 1960	1,300	53,631
	Campbell River	Mar. 1960	3,200	
	Kelowna	Oct. 1956	10,681	
	Kitimat	Mar. 1958	8,500	
	Lake Cowichan	Mar. 1960	2,150	
	Mesachie Lake	Feb. 1958	300	
	Prince George	Sept. 1955	13,500	
	Prince Rupert	Mar. 1957	11,500	
	Smithers	June 1955	2,500	
Northwest Territories	Yellowknife	Aug. 11, 1959	3,600	3,600
CANADA	total population affected			1,316,673

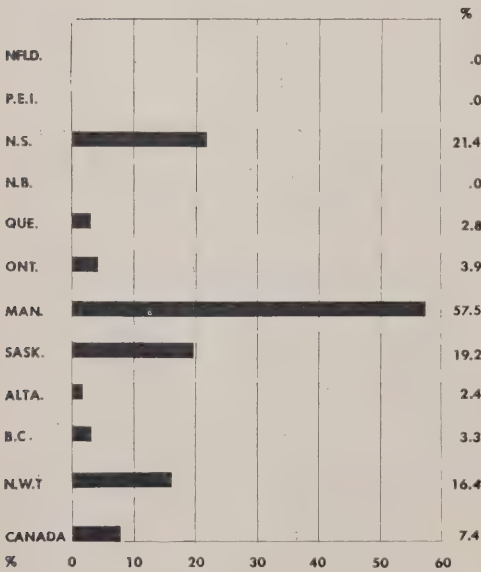


FIGURE 1

Per cent of total population in municipalities with controlled fluoridation.

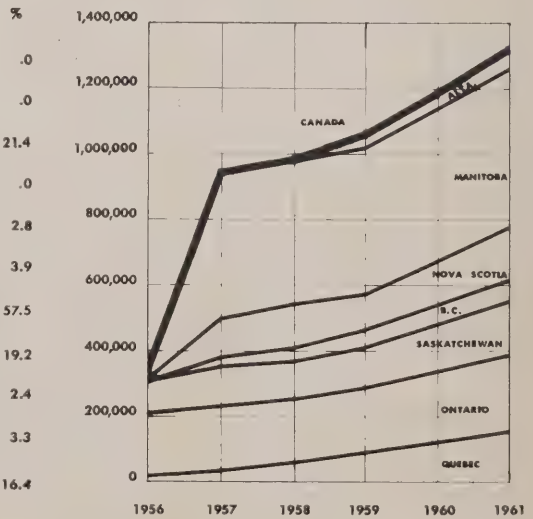


FIGURE 2

Progress of fluoridation. Population in fluoridated communities.

DENTISTRY IN THE NEWS

Canada and the Provinces

INSTRUMENT TAX ALLOWANCE INCREASED

Capital cost allowance (depreciation) of 100 per cent is now permitted on dental instruments costing less than \$100. Until recently, dental instruments costing less than \$50 were subject to 100 per cent write-off. For some time the Canadian Dental Association has urged such a change in the regulations.

Influence of the Canadian Dental Association played a significant part in another recent government action—increase in the dental fee schedule of the Indian and Northern Health Services. Complete details appeared in the Journal, December 1960.

EXECUTIVE COUNCIL MEETS

The Executive Council of the Canadian Dental Association met for three days on February 20-22 at Association headquarters in Toronto. Despite extension of the meeting to three days, it was impossible to complete all items on the heavy agenda. A complete report will be presented to the Board of Governors at the Saskatoon meeting in June. The Executive Council took the following actions:

1. Reviewed reports of 1960 and 1961 conventions, noting particularly the good financial results of the Ottawa meeting.

2. Approved several resolutions concerning details of convention exhibits, publicity, registration and programs.

3. Rescinded an earlier decision to allow refund of part of a member's licence fee when that member practises simultaneously in two provinces.

4. Thoroughly reviewed the "Policy Statement: Projection of Dental Services in Canada" and urged the Council on Education to give immediate study to the training of auxiliary personnel.

5. Revised the "Policy Statement on Aux-

iliary Personnel".

6. Prepared the association's budget for 1962.

7. Approved application to become a sponsor of the Canadian Science Fairs Council.

8. Agreed to extend the annual conference of secretaries of corporate members to three days from the present two.

9. Approved the proposed program of the National Recruitment Committee.

10. Approved policies and functions of the Bureau of Public Information.

11. Appointed F. H. Compton and G. T. Mitton to the General Council of the Health League of Canada.

COUNCIL ON EDUCATION MEETS

The Canadian Dental Association's Council on Education met in Toronto March 23-24 under the chairmanship of J. D. McLean, dean of the dental faculty at Dalhousie University.

Council members attending were J.-P. Lusier, Université de Montréal; T. J. Cooke of Winnipeg; H. W. Reid of Toronto; and H. R. MacLean, University of Alberta. C. E. Dexter of Halifax replaced J. B. O'Brien who recently resigned from the Council for medical reasons. Deans of other dental schools, Association staff members and others also attended the meeting.

Immediately prior to the meeting of the Council and under its sponsorship, teachers representing every Canadian dental school attended a teacher-training conference on operative dentistry. This conference is one of a series of annual conferences arranged to permit face-to-face discussion of problems confronted by teachers of particular subjects. Attending the conference were H. S. Crosby, Dalhousie University; H. Deschênes, Université de Montréal; Ernest Ambrose, McGill University; P. G. Anderson, University of Toronto; and George Gibb, University of Alberta. Conference chairman was G. A. Brass of the University of Manitoba.

W. J. Dunn, chairman of the National Recruitment Committee reported to the

Council. A comprehensive report of the activities of this Committee was published in the *Journal of the Canadian Dental Association*, Volume 27—No. 2—February 1961. The Council on Education approved a budget for the National Recruitment Committee.

The Council considered the Dental Student's Register, as published in the *Journal of the Canadian Dental Association*, Volume 27—No. 3—March 1961. Miss B. I. Boyd, director of the Bureau of Economic Research presented a progress report on the cost of becoming a dentist.

Professor J. Flowers of the Ontario College of Education reported on the aptitude testing program being carried out at the Faculty of Dentistry, University of Toronto in co-operation with the Ontario College of Education. Preliminary results point to academic achievement and clinical work as being the best predictors of student performance. Senior matriculation grades in physics and chemistry appear to be the best predictors of academic achievement, while trigonometry is best, but not completely adequate, for predicting technical skill. A technique course, taught early during the undergraduate curriculum, may help students to recognize their own technical weaknesses. R. M. Grainger of the Toronto dental faculty is developing a test of technical skill.

A. C. Lewis, adviser to the Council, described the improvements in Canadian dental education that have occurred since the first survey of dental schools was made ten years ago. There are four completely new dental school buildings, one new clinic area and complete renovation and new outfitting of the remaining two areas. Full-time teaching personnel has been significantly increased as has been the scholarship of those engaged in teaching. Standards for admission have been rigidly observed and in most schools the enrolment has been increased, in some, quite substantially.

On the whole, those graduating from the dental schools of Canada are well trained and capable of giving first-rate service to the people of Canada. There are, however, some weak areas in the programs of the schools and these have been pointed out to the respective president and dean by the Survey Team in its confidential report to each school.

Recognizing the difficulty of securing suitable personnel and the possibility of having to train them and that it takes time, the Survey Team recommended that a definite and stated period, determined by the Council, be allowed for the schools to correct these weak areas. If satisfactory action has not been taken at the expiration of this period, the Survey Team would recommend to the Council on Education that approval

be withdrawn from those schools offending.

The Council gave approval to the program of the Faculty of Dentistry, University of Manitoba, up to and including the third professional year.

A sub-committee comprised of A. C. Lewis, H. W. Reid and Mrs. B. Brown, supervisor of training in Dental Hygiene, University of Toronto, was appointed to establish minimum requirements for approval of a school of dental hygiene.

Detailed consideration was given to training programs for auxiliary personnel. Reports were presented relating to training programs for auxiliaries in the United Kingdom, the University of Alberta and the University of Manitoba. Tentative approval was given to the curriculum for dental auxiliaries at the University of Alberta. A sub-committee comprised of H. W. Reid, J. W. Neilson, J. McCutcheon, a representative from the Royal Canadian Dental Corps and H. R. MacLean as chairman was appointed to study the training of dental auxiliaries.

J. W. Neilson reported on a proposed study for the extension of dental teaching facilities in Canada. The Council recommended further examination into the possibility of establishing a commission for this purpose.

The Council declined to take action in respect to entering into conjoint examinations between the National Dental Examining Board of Canada and the various dental schools. J. D. McLean was re-appointed as one of the Council representatives to the National Dental Examining Board.

By request, the Executive Council appointed J. D. Neilson as representative of the Canadian Dental Association to the Canadian Conference on Education. He reported to the Executive in February and the Executive referred his report to the Council on Education with request that the Council be responsible for future liaison with the Conference.

The Council considered the question of complaints from the public about dentists' services. This matter had been referred by the Executive and the Provincial Secretaries' Conference to the Council on Education. The Council expressed the view that major responsibility in this area rests with the dental schools, with local dental societies and with the provincial licensing boards. Undergraduate courses should accordingly be strengthened and the other bodies should accept more responsibility for continuing action in this field.

The subject of the 1962 teacher-training conference, sponsored by the Council, will be "Oral Diagnosis and Treatment Planning." Subjects suggested for early consideration in future conferences are periodontics,

orthodontics, dental public health and radiology. R. H. Bingham of Dalhousie University was appointed chairman of the 1962 conference.

CANADIAN SCIENCE FAIRS COUNCIL ACCEPTS ASSOCIATION AS SPONSOR

The Canadian Dental Association has become one of thirteen sponsors of the Canadian Science Fairs Council. Purposes of the Council include stimulation of young Canadians to better understanding of the contributions of science and research, and assisting scientific professions in their support of scientific progress and education.

At the request of the National Recruitment Committee and others, the Executive Council of the Canadian Dental Association recently decided to apply for sponsorship. K. L. Croft, director of the Bureau of Public Information, was named to represent the Association on the Council.

The popularity of science fairs has grown rapidly in the United States and is increasing in Canada. A science fair is an annual exhibition of secondary school students' scientific experiments, projects or collections. High school, local or district, and regional or provincial fairs are being held particularly at this time of year. The Canadian Science Fairs Council hopes to hold a national science fair in 1962.

INCORPORATION INADVISABLE FOR DENTISTS

Professional people such as dentists can not gain tax advantages of incorporation because a company can not be qualified to carry on a practice. Incorporation of dental practice is also unethical, according to the Code of Ethics of the Canadian Dental Association.

Incorporation of professional practice is highlighted in a recent *Toronto Globe and Mail* article by Gwyneth McGregor, editor of the *Canadian Tax Journal*, (to which the Canadian Dental Association library subscribes).

That not everyone is able to take advantage of the corporate form in reducing taxes is demonstrated by the case of a physician who incorporated a private company. The company was controlled by himself and his wife. To the company he transferred all his assets and from it he drew a salary which he contended was his income for the year. The Minister of National Revenue assessed the

physician on the full amount of the fees received. The Tax Appeal Board dismissed the physician's appeal, pointing out that the company could not do and had not done anything to earn the fees. The company was merely a device for creating an employer-employee relationship.

Appeals of this nature have been lost because the income was earned by an individual and not by a company which did not work, procured no contracts and rendered no service. Many people who perform services—tradesmen, some entertainers—do operate through the corporate form, where the company makes the contracts and hires out the services of the individual.

CANADIAN HIGH NEWS FEATURES DENTISTRY PAGE

For the fourth successive year, several dental supply houses have sponsored a dentistry page in the Careers Issue of *Canadian High News*. This publication reaches over 100,000 high school students and teachers across the country. The 1961 issue is dated March 10.

The current issue contains a coupon which students may send to the Canadian Dental Association to receive a free copy of the booklet "Dentistry as a Professional Career". About 200 such requests have been filled since last year's issue. Coupons received are tabulated and later sent to appropriate provincial recruitment chairmen or provincial secretaries for follow-up. Personal contacts have been made with many of these students to show them that dentists are anxious to encourage good students to consider dentistry as a career.

DENTISTS PARTICIPATE IN TV ROMPER ROOM

"The appearance of the dentist and his instructions were most warmly received," comments Romper Room, Inc., producer of a children's television program. One Romper Room teacher reports . . . "letters from parents thanking us for this segment said it helped lessen the children's fear of the dentist and made them want to go".

With the co-operation of the Canadian Dental Association and local dental societies, Romper Room programs televised in Canada featured dental health during National Health Week in March. Arrangements were made for local dentists to appear on several

stations which carry the program in Canada. Programs are produced locally but receive direction from a central source. Similar arrangements are made during Children's Dental Health Week in the United States.

CREDIT RATINGS VALUABLE AID

Mr. W. E. Jackson, administrator of Canadian Dental Service Plans Inc., stated recently that a very significant number of dentists are requesting credit ratings on new patients. This is revealed by the number of charges from the Canadian Credit Bureaux going through his office. Mr. Jackson said this was very encouraging because it showed the increased use of good business principles in professional offices. Wise use of a credit rating aids the dentist in presenting dental treatment requirements to his patients. A patient's paying habits reveal how he will meet his financial responsibilities, just as his oral hygiene habits determine the dental care he will receive.

QUEBEC COLLEGE OF PHYSICIANS AND SURGEONS JOINS CDSPI

A total of seven provinces are now using the services of Canadian Dental Service Plans Incorporated. Just as the Canadian Dental Association is made up of ten corporate dental organizations, corporate members of CDSPI now include British Columbia, Alberta, Saskatchewan, Ontario, Nova Scotia, New Brunswick and now Quebec. This means that the dentists of each member province can now take advantage of the postpayment, welfare and other plans that its provincial organization approves and asks CDSPI to administer. Complete control has been assured each province because each participating provincial dental body has nominated directors to the board of CDSPI.

The present board is as follows: W. H. Feasby, president; P. E. Willson, vice-president; T. W. James and G. C. Walkey, British Columbia; R. B. Deware and R. F. Sansom, New Brunswick; J. F. Burke and W. H. Macneill, Nova Scotia; R. P. Lowery and D. C. Stiles, Ontario; R.-M. LeBlanc and G. Ratté, Quebec; A. Singer and F. R. Smith, Saskatchewan. The executive committee comprises W. J. Dunn, D. B. McAdam and W. E. Jackson, secretary-treasurer.

TORONTO, VANCOUVER DENTISTS VIEW CLOSED-CIRCUIT TV PROGRAM

On April 26, 1961, the University of Pennsylvania, in consultation with the American Dental Association, presented the first international live closed-circuit television dental clinic. The program was sponsored in Canada by Procter and Gamble, Ltd., Research and Development Division.

Clinics were presented on periodontics, audioanalgesia, prosthodontics, ultra-high speed techniques and endodontics. The University of Pennsylvania has been using closed-circuit television in the school's teaching program for the past five years. Dr. Lester Burket, dean of the School of Dentistry says, "Use of television allows thousands of dentists to view techniques normally visible to only a few students." The periodontal clinic, for example, he said, shows actual surgery on a patient with extensive periodontal disease. In the clinic on ultra-high speed, a common problem is illustrated such as a restoration or rapid preparation of full crowns.

Television dental clinics were held at the King Edward Hotel, Toronto and the Georgia Hotel, Vancouver.

ALBERTA

Alberta Mechanics to make Dentures for Public.—Dental mechanics are permitted by new legislation to take impressions, manufacture and fit dentures for the people of Alberta. On a vote of 36-25, the legislature approved Bill 59 incorporating the Alberta Certified Dental Mechanics' Society. A certificate of oral health signed by a dentist or physician is required before a mechanic can do his work.

The bill is effective July 1, 1961.

The legislation was introduced as a private member's bill to incorporate the Alberta Public Denturists Society. After strenuous debate, the private bills committee approved the bill but agreed to change the name to dental mechanics. The committee also agreed that the society comes under jurisdiction of the provincial labour department rather than the health department.

Two other bills of interest to dentistry were also approved. Bill 52 amends the Dental Association Act to clarify certain procedures. Bill 55 is an act respecting dental technicians. It carried approval of the Alberta Dental Technicians Association and the

Alberta Dental Association. It is based largely on the Ontario technicians legislation. Both bill 52 and 55 were introduced as government measures.

Calgary and District Dental Society.—Dr. E. O. Thompson of Salt Lake City, Utah addressed the society on December 5, 1960. "Office Arrangements and Instrumentation" were the subjects of Dr. Thompson's afternoon presentation; "Time and Motion studies, Accelerated Efficiency and Practice Administration" were the subjects of his evening lecture. The papers were copiously illustrated by slides.

Two Calgary specialists addressed the society at the January, 1961 meeting. Dr. A. D. Sparrow reviewed drugs used in dentistry. Dr. K. G. Minty discussed sedation and principles of prescription writing in paedodontic practice.

Dr. W. G. McIntosh of the Faculty to Dentistry, University of Toronto, addressed the society during the afternoon and evening of February 6. His paper dealt with aetiology, lesions, and methods for the reduction of pocket depth in periodontal disease.

President J. P. Whyte and secretary D. W. Gullett of the Canadian Dental Association were guests of the society on March 9. This event marked the annual presidential visitation. The society's Annual Ladies' Night was held at the Glencoe Club on March 10. Dr. R. Duncan was chairman of the event which was attended by about seventy couples.

CDA President and Secretary visit Lethbridge Society. — Many dentists and their wives, some from as far afield as Taber and Blairmore, were present at the meeting on March 10 to meet president J. P. Whyte and secretary D. W. Gullett of the Canadian Dental Association. Dr. Whyte reviewed the changing aspects of dentistry in Canada today. Dr. Gullett discussed the findings of the Survey of Dentistry in the United States, stressing their application to Canadian dentistry.

BRITISH COLUMBIA

British Columbia Supreme Court invalidates Special Dental Technicians' Licenses. —

Special licenses provided under regulations of the British Columbia Dental Technicians Act have been declared invalid. A decision by Mr. Justice McInnes delivered in the Supreme Court of British Columbia on April 7 has ruled Division 10 of the regulations passed pursuant to the Dental Technicians Act, R.S.B.C. 1960, Chapter 98 to be ultra vires because: (1) the provisions of Division 10 of the regulations are beyond the powers of the Board of Examiners appointed under the Act, (2) because they are discriminatory, and (3) because they are contrary to public policy.

This decision related to an application for a special license by Niels M. Stilling permitting the applicant to deal directly with the public in supplying prosthetic dentures without the intervention of a duly qualified dentist. This application had been refused by the board of examiners because he did not comply with the requirement of a minimum of twelve years' experience as a dental technician, of which the last seven years shall have been spent in an establishment dealing with the public in British Columbia.

It will be recalled that, under the Act, the board was authorized to make regulations with respect to registration, licensing, education, experience, technical qualifications, examination and training required of dental technicians.

Pursuant to the powers contained in the Act the board of examiners prepared certain regulations. Division 10 of these regulations made provision for three classes of dental technicians, namely:

- (a) Registered Dental Technician (Senior Grade)
- (b) Registered Dental Technician (Junior Grade)
- (c) Registered Apprentice

By Division 10 provision was also made for the granting of special licenses; i.e. the board was authorized to license and permit a Dental Technician (Senior Grade) to make, repair, reline, rebase and furnish upper and (or) lower full dentures to any member of the public, if it was satisfied that the dental technician had had a minimum of twelve years' experience as a dental technician, of which the last seven years had been spent in an establishment dealing with the public in British Columbia.

By Regulation 10.07 the board had ruled that no dental technician would be granted a special license after September 15, 1960.

The main ground of attack by the applicant in this case related to his inability to meet the board's requirements prior to September 15, 1960 and his subsequent ineli-

gibility to qualify for a special license at some future date when he would have satisfied these requirements.

In his judgment, Mr. Justice McInnes ruled that there was no authority under the Dental Technicians Act empowering the board to place any limitation on the time within which such application for special licenses might be made. Moreover, if at the time the regulations came into effect, one had previously carried on business as a dental technician but had not up to that time dealt with the public in British Columbia as a dental technician, he could not thereafter lawfully do so because the provisions of the Dental Technicians Act and the regulations (specifically Division 6, Regulation 6.02) prohibit him from so doing. Yet Division 10, Regulation 10.01 and 10.07 envisaged the licensing of a certain number of dental technicians (Senior Grade) who could qualify to the exclusion of all other dental technicians both present and future. The learned judge held this to be in direct contravention of the purview of the Dental Technicians Act. Furthermore, he believed that the intent of the legislature had been that dental technicians, present and future, with the necessary qualifications should be entitled to deal directly with the public in the one special branch of dentistry. The present regulations made no provision for the further issuance of special licenses nor was provision made to enable persons to qualify for the issuance of special licenses. He considered this as contrary to the spirit and intention of the Act, as an infringement of the rights of all other dental technicians to develop and occupy their special talents, and as depriving the public in the future of its right to receive these services after the present special licenses have ceased to exist.

The learned judge therefore held Division 10 of the regulations as *ultra vires*, stating that there no longer exists provision for granting such special licenses. The matter will have to be the subject of future legislation if it is found desirable to permit the granting of such special licenses.

In the opinion of other persons, Division 10 was also in conflict with the Dentistry Act. The technicians board had issued about sixty special licenses to technicians who met the requirements.

Vancouver and District Dental Society. — President J. P. Whyte and secretary D. W. Gullett of the Canadian Dental Association addressed the society on March 7.

Dr. Whyte, who was introduced by Dr.

H. E. Simmons, stressed the critical need for more dentists, the importance of preventive measures and the maintenance of high standards of dental care.

Dr. Gullett, who was introduced by Dr. W. Ross Upton, reviewed current and future problems in dental practice. Stating that too few dentists know how to use dental auxiliaries effectively, the Association secretary also called for the development of an equitable fee schedule because the public cannot understand the discrepancies in fees which exist in different parts of the country. Emphasizing the importance of dental care as an essential health service which is beneficial to the patient, Dr. Gullett further predicted that hospitals will in future have to provide for a full range of dental treatment.

Victoria and District Dental Society. — Guests from the Victoria and District Medical Society, from local hospitals and from city dental laboratories, joined with the society at its February meeting which was addressed by Mr. Richard Colby. The speaker presented a film "The Saga of the Red Goat" which portrayed the wild life in some of the remote areas of the province. This film has won several international awards.

President J. P. Whyte and secretary D. W. Gullett of the Canadian Dental Association addressed the society on March 6. Dr. Whyte discussed the present status of dentistry in Canada. Dr. Gullett reviewed the work of the Canadian Dental Association and spoke on the report on the Survey of Dentistry in the United States.

B.C. Offers Scholarships, Bursaries. — Scholarships and bursaries are being offered by the two provincial dental organizations to encourage British Columbia students to attend dental schools.

The British Columbia Dental Association has set aside \$1,000 from public relations funds to establish one scholarship of \$250 and three bursaries of similar amounts each year to encourage local students to attend dental faculties outside British Columbia.

The College of Dental Surgeons of British Columbia has granted \$1,000 for two student loans yearly to encourage young women to train as dental hygienists.

These scholarships and loans will be administered by dean Walter Gage of the University of British Columbia.



R. Henderson, president of the British Columbia Dental Association, left, presents to dean Walter Gage of the University of British Columbia a cheque for scholarships and bursaries. W. Ross Upton, executive secretary of the association is on the right.

NEWFOUNDLAND

Dental Health Poster Contest. — As part of its dental public health program, the Newfoundland Dental Society, with the consent of the provincial Department of Education, will conduct a dental health poster contest among the province's school children.

Competition is open to two groups of pupils—Section A for grade 3 and 4 pupils, and Section B for grade 5 and 6 pupils. Each school may submit three entries in each section to the provincial competition. The winning posters will be chosen by judges appointed by the Newfoundland Dental Society. Awards of \$20—first prize, \$15—second prize, \$10—third prize and \$5—fourth prize, will be made on the basis of accuracy, originality and neatness of the material.

It is hoped that this competition will stimulate among school children an increasing awareness of the importance of healthy mouths and teeth in healthy bodies.

NOVA SCOTIA

Nova Scotia Dental Association.—The annual meeting of the Nova Scotia Dental Association will be held on May 19 in Halifax at the Faculty of Dentistry, Dalhousie University.

Cape Breton Island Dental Society.—L. G. Israel presided at the first regular meeting of the current year, held on February 27 at Sidney City Hospital. School absenteeism for dental appointments, problems of the local society's recruitment committee, a proposed dental survey of school children, audioanalgesia and a case presentation of a large maxillary cyst, constituted items on the agenda.

ONTARIO

Ontario Approves Fluoridation Bill.—Fluoridation by municipal by-law is permitted under an act passed on March 29 by the Ontario legislature. The act also provides for plebiscites.

To quote the act: "Where a local municipality or a local board thereof owns or operates a waterworks system, the council of the municipality may by by-law establish, maintain and operate . . . a fluoridation system in connection with the waterworks system."

Before passing a by-law, municipal councils may submit the following question to local electors: "Are you in favour of the fluoridation of the public water supply of this municipality?"

Councils are bound to act on majority opinion expressed in plebiscites. Fluoridation



Present at a recent meeting of the board of directors of the Associated Dentists' Cooperative Ltd. were: front, left to right — W. J. Woods, vice-president; E. S. White, president; R. F. Hicken; J. J. Hemphill; M. Florence; and D. P. Harper; back, left to right — M. A. Kamienski; R. L. Ellis; D. Gow, secretary-treasurer; S. E. Goldman; D. C. Clee, board chairman; I. Hrabowsky; J. T. Ting; M. G. Hardy; and E. S. Thompson. The directors represent more than 700 dentist-shareholders of the A.D.C.

can be discontinued by the same methods, i.e. by by-law or plebiscite. A petition signed by ten per cent of the electors can force a public vote either to start or to discontinue fluoridation.

Hypnosis Act Enacted.—The Ontario legislature has enacted the Hypnosis Act 1960-61. It provides that no person shall hypnotize or attempt to hypnotize another person unless he is a physician or dentist using hypnosis in the practice of his profession. A registered psychologist may also use hypnosis on the request of or in association with a legally qualified medical practitioner.

The Cabinet has authority to make regulations designating additional classes of persons who may practise hypnosis. No such regulations have been effected as yet.

Dentists Active in Recruitment.—High school students and guidance counsellors spent part of their Easter vacation as guests of Ontario dentists. About fifty students, most with academic averages over 70 per cent, toured the Faculty of Dentistry building in Toronto and were billeted overnight in homes of local dentists. Nearly 100 vocational guidance teachers, attending the Ontario Educational Association convention in the city, also visited the dental building.

Dr. S. A. MacGregor recently toured eastern Ontario centres speaking to parent and

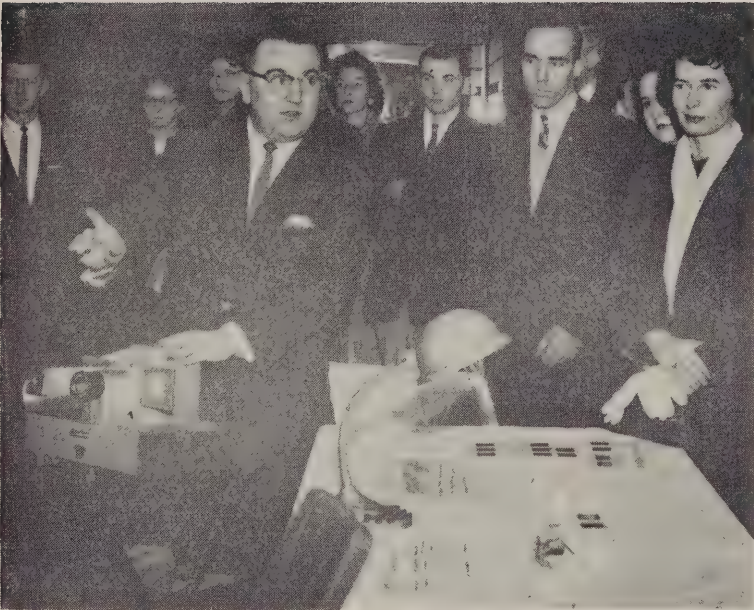
student groups about dentistry as a career. Local dental societies co-operated in arranging for interested students with high academic standing to make the trip to Toronto by chartered bus. The touring students saw the dental school in action and were treated to dinner before pairing off to meet their overnight hosts.

Sarnia Teachers are Guests of Lambton County Dental Society.—Teachers from Sarnia and district schools were guests of the Lambton County Dental Society at a recent "Dental Clinic Night" held to observe Ontario Dental Health Day.

Table clinics and exhibits staffed by seventeen Sarnia and district dentists presented information on a wide range of subjects of dental and public health significance.

Sarnia's director of education, William Rogers complimented the dental society for its efforts in providing dental health information. Participating in the program were W. M. McLean and R. Crawford—Restorative Dentistry; T. K. Storey and D. R. Smith—Fluoridation; D. F. Brown and M. Pearlman—Diet Control; G. T. Milne and E. F. Rancher—Interceptive Orthodontics; L. B. Brunton and W. A. Burleigh—Deciduous and Permanent Dentition; N. F. Anderson and J. K. Garrett—The Value of Dental Radiographs; C. J. Reece and W. R. Moore—Oral Hygiene and Periodontics; D. D. Lloyd and E. L.

Members of the Lambton County Dental Society recently demonstrated dental procedures to Sarnia, Ontario teachers as part of the observance of Ontario Dental Health Day. A teacher, left, listens intently to explanations given by Dr. W. M. McLean, centre, and Dr. R. Crawford, right, of Sarnia.



Dr. R. M. Williams of the Lambton County Dental Society demonstrates the principles of endodontic treatment and restoration of permanent teeth.

Kennedy—Dental Materials; R. M. Williams and W. R. Fletcher—Endodontics; and J. R. Drummond — Orthodontics. The visiting teachers were welcomed by W. H. Griffith and J. M. Garrett.

PRINCE EDWARD ISLAND

Atlantic Provinces Dental Convention.—Island dentists will be hosts to their colleagues from New Brunswick, Nova Scotia and Newfoundland at the Atlantic Provinces Dental Convention, July 2-5.

This is the major dental meeting of the Atlantic seaboard provinces.

QUEBEC

Registrar condemns apathetic attitude towards Recruitment.—Writing in the March 1961 issue of *Informations* (Vol. 2—No. 1), Quebec College of Dental Surgeons secretary-registrar R.-M. LeBlanc chided dentists who disparage their profession and complain about illegal practice, while remaining indifferent to the efforts of officers and representatives of the organized profession.

"All our professional problems in the province of Quebec have one common origin: the shortage of dentists," said Dr. LeBlanc. With 1,320 dentists serving a population of over five million people, another 645 dentists are immediately needed to enable Quebec to attain parity with Ontario's dentist—population ratio. To compensate for an anticipated increase in population estimated at six million by 1970, it would be necessary to graduate about 100 students annually during the next few years.

Stating that the two dental schools in Quebec are ready to double their enrolment, Dr. LeBlanc urged that every dentist encourage at least one young man to enroll in the province's dental schools during the next ten years.

Fined \$5,000 in Two Years for Illegally Making Dentures.—A Sherbrooke, Quebec, court recently fined Armand Prince \$1,000 and costs on a charge of making dentures without being registered as a dentist. Prince has reportedly paid another \$4,000 in fines for similar offences in the past two years.

Montreal Dental Club.—The annual Winter Meet of the Montreal Dental Club was held on the weekend of February 25, 1961 at the Chantecler Hotel in Ste. Adèle.

The second combined meeting of the three dental societies of Montreal was held on the afternoon and evening of February 27, at the Queen Elizabeth Hotel. Members of the Montreal Dental Club, the Mount Royal Dental Society and the Société Dentaire de Montréal joined to hear Col. Robert B. Shira, U.S. Army Dental Corps, discuss oral surgery.

The topic of Col. Shira's afternoon lecture was "Preoperative Evaluation and Selection of Patients for Oral Surgical Procedures." The compiling of a complete case history was stressed as being essential before any surgical procedure is carried out. Complete radiographs are necessary, but care must be taken not to expose pregnant women to excessive radiation. Surveys have shown that children born to mothers who were subjected to excessive radiation during pregnancy are six times more susceptible to leukaemia than are other children, the speaker stated. While summarizing diseases and physical conditions of patients, Col. Shira indicated the precautions to be taken when carrying out dental treatment. Most extreme precautions must be taken with patients suffering from uncontrolled thyrotoxicosis, and with haemophilic patients. He concluded his evaluation of patients by saying that an abscessed tooth may be removed at any time provided that there is adequate coverage with antibiotics and that the surgery is of a simple nature.

Following dinner, J. M. Chamard, a member of the Montreal Dental Club, and of the board of governors of the College of Dental Surgeons of the Province of Quebec and of the Canadian Dental Association spoke on the trends towards socialized dentistry. He discussed the changes which dentistry would have to undergo in order to prevent it from becoming a political servant. The standards of dental care must be continually raised in the face of attempts to socialize the profession.

The evening portion of Col. Shira's lecture was entitled, "Common Problems in Exodontia and Oral Surgery." He strongly advised the use of an aspirating syringe, since he found that even when using extreme caution 7 per cent of injections penetrate into blood vessels. Disposable needles are also a necessity as it is impossible to sterilize the lumen of the narrower gauge needles adequately. Col. Shira described the use of flaps, and in discussing tooth extraction stressed the following points: the dentist must have clear access; he must use controlled force; and

there must be an unimpeded path of removal. If necessary the tooth must be reduced or the socket enlarged.

A regular monthly meeting of the Montreal Dental Club was held at the Queen Elizabeth Hotel on March 20. F. O. Frederick, president-elect, presided at the meeting. A. B. Jardin and J. Fong Chong were admitted as new members.

L. W. Francis, associate professor of Clinical Dentistry at McGill University addressed the meeting on "The Use of Some Newer Drugs in Dental Practice." He illustrated some of the oral conditions that a dentist may be called upon to treat, and discussed the drugs and treatment of choice. In the field of antibiotics he recommended the use of penicillin V, and for penicillin-sensitive patients he recommended erythromycin. It was noted that streptomycin definitely affects the auditory nerve and can cause deafness after prolonged use. Dr. Francis feels that ataractic drugs (tranquilizers) are of definite benefit to many dental patients, and that newer rapid-acting drugs will find more widespread use in dentistry.

Montreal Alumni Chapter, Alpha Omega Fraternity.—Marvin C. Goldstein of Atlanta, Georgia, was the guest lecturer at a meeting of the Montreal Alumni Chapter of Alpha Omega Fraternity on March 3. Dr. Goldstein, a prominent orthodontist in the United States, and a leading authority in the field of adult orthodontics, spoke on the subject of "Orthodontics for the Adult Patient".

The lecture was divided into two parts. The first dealt with those cases which the general practitioner should refer to the orthodontist for treatment. The second part was devoted to the type of case which the general practitioner could possibly treat himself. Dr. Goldstein illustrated both types of cases, demonstrating the great improvement in function, aesthetics, and in the mental well-being of the adult patient that can be achieved. He rejected the concept that orthodontic treatment can only be done in children by showing the excellent results which he has achieved with adults up to the age of 65. He also emphasized the role of orthodontic treatment as an integral part of mouth rehabilitation.

The lecturer stressed the importance of proper restorative procedures indicating that a slightly high restoration can sometimes shift or alter the entire occlusion. He also emphasized the importance of occlusal equilibration, pointing out that almost every case of temporomandibular joint pain can be relieved through equilibration or through the

use of a bite plane. Dr. Goldstein concluded his address by showing the numerous uses and ease of application of the elastic thread ligature which he designed some years ago.

SASKATCHEWAN

CDA President and Secretary visit Saskatchewan Section, Western Canada Dental Society.—President J. P. Whyte and secretary D. W. Gullett of the Canadian Dental Association addressed one of the largest meetings ever of the Saskatoon and District Dental Society on March 1.

Referring to changes in the relationship between the health professions, the lay public and governments, Dr. Whyte admonished the profession to accept the challenge of meeting health care needs and to provide proper solutions. "We must provide the leadership," Dr. Whyte said.

Stressing the significance for Canadian dentistry of the recently published report of the Commission on the Survey of Dentistry in the United States, Dr. Gullett called on members of the dental profession for full acceptance of dentistry's social and health responsibilities.

International Items

EIRE

Fluoridation Required in Ireland. — Late in 1960, both Houses of the Irish national legislature approved a bill obliging health authorities to make arrangements for the fluoridation of water supplies. Before the regulation is put into effect, a sampling survey will be made of the incidence of dental caries in children attending full-time day schools in areas affected.

NEW ZEALAND

Government Dental Director Retires.—Dr. J. Bruce Bibby, director of the Division of Dental Health, New Zealand Department of

Health retired on March 21, 1961. In 1924, four years after the first School for Dental Nurses was established in Wellington, Dr. Bibby, who had been operating a school dental clinic, was appointed an instructor at the School for Dental Nurses. From that time onward, Dr. Bibby's entire professional life was devoted to the New Zealand School Dental Service. His influence throughout New Zealand has been felt in many ways, particularly during his tenure of office as deputy-director and latterly as director of the division.

In 1935 Dr. Bibby attended courses at the University of Pennsylvania leading to the degree D.D.S. This was followed by a period of extensive travelling to the United Kingdom and continental Europe.

On behalf of the New Zealand Department of External Affairs, Dr. Bibby in 1957 visited various countries in southeast Asia receiving Colombo Plan assistance. On completion of this assignment he went to Rome as a guest speaker at the XII International Dental Congress of the Fédération Dentaire Internationale. He also visited various European countries, including the United Kingdom and Scandinavian countries, for purposes of study of dental public health services, returning to New Zealand via the United States.

SWITZERLAND

Diminishing Dental Student Enrolment. — Only seventeen Swiss students commenced undergraduate dental training in Switzerland's four dental schools during the current academic session. Writing in the February issue of the *Swiss Dental Journal*, Charles Bonsack warned the dental profession of the consequences of the continuing decline in the number of dental graduates. Stressing the importance of an effective recruitment program, he urged that practising dentists, particularly dentists appointed to school boards, emphasize the value of career opportunities in dentistry. Cantonal dental societies and the dental schools were also invited to develop programs to enable secondary school students to visit the dental schools and observe dental students at work in the various departments of each school.

Dr. René Jaccard passes away.—A noted national and international Swiss dentist, Dr. René Jaccard, passed away on December 23, 1960 while en route to the south of France for a brief vacation. He was 75.

Dr. Jaccard was prominent in the Swiss Dental Society, having served as president from 1924-26 and from 1930-31. Since 1934 he was editor of the *Bulletin Professionnel*, a monthly publication of the Swiss Dental Society devoted to matters of dental professional organization.

He was a past-president of the International "Arpa" Association for Periodontal Research, a vice-president of the Fédération Dentaire Internationale and a founding member of the journal *Parodontologie*.

Dr. Jaccard was instrumental in developing military dental services in the Swiss Army and in encouraging dental activities in Red Cross programs.

UNITED KINGDOM

New Journal to be Published—The Helion Press (Technical and Scientific Printers and Publishers) of London have announced the forthcoming publication of the first issue of *Stomatology*. This new publication is designed to facilitate the exchange of dental knowledge between Russian-speaking and English-speaking countries.

Training Programs for Dental Hygienists and Dental Auxiliaries.—In accordance with the provisions of the Dentists' Act there are now two courses in operation for the training of dental auxiliaries. These courses are under the control of the General Dental Council.

1. Dental Hygienists. — Dental hygienists, both men and women, were first trained in the United Kingdom during the 1939-1945 war for work in the armed forces, where they are still being trained. Between 1949 and 1951 the Ministry of Health, as an experiment, trained 200 women at the Eastman Dental Hospital to work in the national and local authority health services. Hygienists trained under these schemes are given the Minister of Health's Certificate of Proficiency which entitles them, under the Council's regulations, to enrolment in the Roll of Dental Hygienists kept by the Council.

The Council is responsible for approving training arrangements which may be made by university dental schools and other bodies for training hygienists, including their courses of study and examinations, and for ensuring that such arrangements do not materially impair facilities for training dental students. It has prepared recommendations concerning minimum courses of study for

such training. Dental hygienists trained under approved arrangements who pass the examinations and receive a certificate proving their fitness to practise as dental hygienists are entitled to enrolment. Arrangements for training dental hygienists in small groups have been made in several dental hospitals and further schemes are under consideration. There are at present 110 hygienists in the Roll.

2. *Dental Auxiliaries.*—This experimental course for dental auxiliaries was started on October 3, 1960 at the School for Dental Auxiliaries, New Cross General Hospital, London. At the school young women from all parts of the United Kingdom are trained to work in the health services as dental auxiliaries, helping dentists in the provision of dental treatment for children. During a two year course they are taught to do simple fillings, to extract deciduous teeth and to clean, scale and polish teeth. At the end of their training they will be eligible to be employed in local authority dental services and in the hospital service, where they will work under the direction of dental surgeons who will examine the patients and prescribe the treatment to be given. It is expected that the salary scale for trained dental auxiliaries will be £500 x £20 (5) x £25 (6)—£750.

The school is designed to take an entry of sixty students each year. Candidates for admission must be at least seventeen years of age by September 1 of the year in which they wish to start training. They should, at the time of application, have passed in at least four subjects at the Ordinary Level in the examinations for the General Certificate of Education (the Lower Standard in the Scottish Leaving Certificate, the Ordinary Level in the Senior Certificate of the Ministry of Education of Northern Ireland) or must show other evidence of a good general education. The subjects which will be of value to girls who wish to be considered for the course include English Language, Mathematics and science subjects (General Science, Chemistry, Physics, or Biology).

UNITED STATES

Auxiliary Training and Accreditation. — At meetings held in late February, the A.D.A. Council on Dental Education took a series of actions concerning training and/or accreditation of dental assistants, dental hygienists and dental laboratory technicians. The Coun-

cil approved plans to accredit, in 1962-63, sixteen two-year programs and 13 one-year programs in dental assisting. The Council also approved the first list of provisionally accredited dental assistant programs to be published by ADA. Prior to the 1960 House of Delegates' approval of educational standards for dental assistants, such accreditation was conducted by a committee of the American Dental Assistants Association.

U.S. Survey Report Published.—The final report of a two-year comprehensive study of dentistry in the United States has been published in a 600-page book entitled "The Survey of Dentistry". Copies of the book are available at \$10 each from the American Council on Education, 1785 Massachusetts Avenue N.W., Washington 6, D.C.

The Survey is believed to be the most comprehensive study of dentistry ever conducted and has aroused considerable interest in Canada. Membership of the 16-man Commission on the Survey of Dentistry in the United States reflected views of the dental profession and the varying interests of the public. The secretary of the Canadian Dental Association was one of four dentists on the Commission.

WORLD HEALTH ORGANIZATION

Support Fluoridation.—During the meetings of the thirteenth World Health Assembly at Geneva in May, 1960 representatives from Ceylon and Paraguay strongly underlined the need for fluoridation of water supplies. The World Health Organization was asked to consider provision of assistance and technical advice on fluoridation to member countries.

Dental Health Activities of W.H.O. in 1960.—In his annual report the Director-General of the World Health Organization refers to the results of the Expert Committee on Dental Health (periodontal disease) and the Seminar on Dental Health Services for Children. Mention is made that postgraduate training in public health dentistry is now an essential requirement for dentists engaged in administrative public health positions. Hitherto, such training has been available only in a few countries but a number of additional countries are considering the introduction of university courses in dental public health.

During 1960 eleven W.H.O. fellowships were awarded for dental health purposes—one in the Americas, four in south-east Asia, three in Europe, and three in the western Pacific region.

Dental Health Stated for Western Pacific Meeting.—'Dental Health' has been selected as the theme of the technical discussion of the meeting of the Western Pacific Regional Committee meeting in New Zealand scheduled for late August or early September, 1961. The topic was suggested by the W.H.O. Secretariat because the Dental Health Seminar held at Adelaide, Australia, in 1959 had given new stimulus to public health workers to expand their dental health activities and it would be useful to know how problems connected with this program had been met by their governments.

Canadian Dental Schools

UNIVERSITY OF ALBERTA

New Staff Appointments.—There have been two additions to the full-time staff during the current academic year. S. G. Geldart has been appointed clinical director and P. D. MacRae has been appointed to the operative and paedodontic staff. Three new part-time staff members are A. Borkent, J. M. Shields in the Operative Department and A. C. Thompson in the Prosthetic Section.

Formal Opening of Medical Sciences Building.—S. G. Geldart has been appointed chairman of the Convocation Committee for Medicine and Dentistry and chairman of the committee for the official opening of the Medical Sciences Building which is to be formally opened on June 2, 1961. A special medical-dental convocation will take place on the same day.

Dental Auxiliary Training Program.—Late in 1959 representatives from the Alberta Dental

Association and the Faculty of Dentistry, University of Alberta, were hastily summoned by the Minister of Health to discuss proposed legislation concerning dental auxiliaries in Alberta. This action was prompted by an existing need and a rapidly increasing demand for dental health services in many rural areas, and undoubtedly was precipitated by the activities of a dental missionary group operating in the province.

Dean H. R. MacLean was asked to appoint a committee charged with preparing and submitting a brief on the whole matter. As a result of the numerous discussions and meetings which followed between members of the association, the Faculty and the Department of Public Health, the Government of Alberta passed a Dental Auxiliaries Act at the 1960 spring session.

Pertinent sections of the Act read as follows:

1. "Dental Auxiliary" means a person other than a dentist who is trained to perform the dental services specified in the regulations as being services that a licensed dental auxiliary may perform in the province.

2. Section 3 (1) of "The Dental Auxiliaries Act" states: "The Minister may establish schools for the training of dental auxiliaries by providing a program of dental auxiliary training to be carried out at the University of Alberta by agreement between the Minister and the Board of Governors of the University of Alberta."

3. Section 7 (2) of this Act states: "Notwithstanding anything to the contrary in the Dental Association Act, a dental auxiliary who has a subsisting license under this Act to practise as a dental auxiliary may for reward or otherwise render any or all of the dental services for which he has been trained pursuant to this Act, but the services shall only be rendered under the supervision or direction of a dentist, who is at all times responsible for the services, and while the dental auxiliary is employed by a local health authority or by a dentist employed by the local health authority, or when the dental auxiliary's services are retained by a local health authority or by the Faculty of Dentistry of the University of Alberta."

4. Section 19 (1) states: "The dental services that may be rendered by licensed dental auxiliaries are those dental services set out in the regulations and for which he has been trained during his course of formal training."

Under the terms of the Act a Dental Auxiliary Committee comprising a representative

from the General Faculty Council, University of Alberta, the director of Dental Public Health, Department of Public Health, a representative from the Alberta Dental Association and two members at large were appointed by the Minister to serve in an advisory capacity. The committee's recommendations were presented to the Minister, and after consideration and approval by the Minister and the Lieutenant-Governor in Council a proposed program was presented to the General Faculty Council of the University of Alberta. The resolution concerning entrance requirements and course of training, agreed upon by General Faculty Council and the Lieutenant-Governor in Council is as follows:

"Resolved that General Faculty Council approve the principle of establishing a dental auxiliary program at this University. This program will be a two-year program with compulsory summer work of approximately four months duration each summer in health units in the province, the program to be completed at the end of the second summer. In general, the teaching will follow that of the dental hygiene program at present at the University of Toronto, with added work in those subjects necessary for the training of a dental auxiliary. Details of the program are to be worked out by the Council of the Faculty of Dentistry. Admission requirements for this program are to be a high school graduation diploma with B or higher standing in the required courses of grade 12, and an average in these courses of at least 60 per cent. The required courses are as follows:—English 30, Social Studies 30, Chemistry 30, and three of Mathematics 30, Physics 30, Biology 32 and a foreign language. It is strongly recommended that Mathematics 30 be taken by prospective students."

In February 1961 Miss Margaret Berry was appointed director of Dental Auxiliary Training with the rank of assistant professor. The course curriculum is presently being drafted and a two-year course of training for dental auxiliaries will be offered at the Faculty of Dentistry in September 1961.

Dental Auxiliary students will have their own special training area but much of their clinical training will be carried on in the new main dental clinics along with the undergraduate dental students. Initially the dental auxiliaries will be trained to provide examinations, dental health education, x-ray services, scaling and cleaning teeth, polishing fillings, topical fluoride application and other office and laboratory procedures for which they have been trained. The expansion of services will be on the basis of sound study and evaluation.

Dental auxiliaries working under the su-

pervision or direction of a dentist may be employed in local health units or city health departments. However, for the first two years after receiving their diploma, as a return of service, the areas in which they can work will be designated, and these areas will be selected on the basis of need. When health unit needs are fully met, it is anticipated that revised legislation will allow dental auxiliaries to work with a dentist in private practice. The course will be open to men and women but is particularly suited to young women.

Successful applicants will be eligible to receive a subsistence allowance of \$75 per month during the first and second academic years, tuition fees for the first and second years of training and a book allowance of approximately \$25. It is hoped that twenty students can be enrolled in the first class.

Royal Canadian Dental Corps

HEADQUARTERS NEWS

Brigadier K. M. Baird, Director General of Dental Services made an inspection tour of No. 12 Dental Coy., Eastern Command, with headquarters in Halifax in late March. Accompanied by Lt.-Col. A. T. Roger, Commanding Officer of 12 Company he visited RCDC clinics in the Halifax area, Camp Gagetown, HMCS "Cornwallis" and RCAF Station, Greenwood. While in Saint John, Brigadier Baird conferred with the Honorary Colonel Commandant of the Corps, Colonel J. F. Edgecombe.

Colonel G. B. Shillington, Deputy Director General of Dental Services visited The RCDC School, Camp Borden, on March 23 and attended a meeting of the Council on Education of the Canadian Dental Association held in Toronto the following day.

Colonel H. L. Harris, Director of Dental Services (Navy) recently inspected RCDC (M) units across Canada in connection with the annual Militia General Efficiency Competition. All units are participating this year as follows:

No. 50 Dental Unit, Halifax—Lt.-Col. G. C. MacLeod, Commanding Officer

- No. 51 Dental Unit, Saint John—Lt.-Col. H. F. Bonnell, Commanding Officer.
- No. 53 Dental Unit, Montreal—Lt.-Col. A. J. Gervais, Commanding Officer
- No. 54 Dental Unit, Ottawa—Lt.-Col. H. J. Chartrand, Commanding Officer
- No. 55 Dental Unit, London—Lt.-Col. A. J. Harris, Commanding Officer
- No. 56 Dental Unit, Toronto—Lt.-Col. A. Z. Henry, Commanding Officer
- No. 57 Dental Unit, Winnipeg—Lt.-Col. M. J. Snidal, Commanding Officer
- No. 58 Dental Unit, Regina—Lt.-Col. A. Mintz, Commanding Officer
- No. 59 Dental Unit, Calgary—Lt.-Col. G. N. Finlay, Commanding Officer
- No. 60 Dental Unit, Edmonton—Lt.-Col. S. G. Geldart, Commanding Officer
- No. 61 Dental Unit, Vancouver—Lt.-Col. F. K. Currie, Commanding Officer.

Major D. H. Protheroe, Dental Public Health Officer in the Directorate of Dental Services represented the Director General at a meeting of the editorial board of *Oral Health* magazine in Toronto on March 22.

NEW CLINIC OPENS AT ST. HUBERT

A modern new dental clinic at RCAF Station, St. Hubert near Montreal was officially opened by Brigadier K. M. Baird, Director General of Dental Services on March 6. Also in attendance at the opening were Air Commodore J. B. Harvey, Chief Staff Officer, Air Defence Command Headquarters; Colonel T. L. Marsh, Command Dental Officer, Quebec Command; and Group Captain W. B. Hodgson, Commanding Officer, RCAF Station, St. Hubert.

Major E. D. Fraser of Springhill, N.S., is Senior Dental Officer at this clinic which includes an up-to-date laboratory and five operating bays.

RETIREMENTS, SEPARATIONS

Major Finkbeiner Retires from Corps. — Army Headquarters has announced the retirement from the RCDC of Major George L. Finkbeiner, C.D. Senior Dental Officer at No. 7 Personnel Depot, London, Ont.

Major Finkbeiner was born in Milverton, Ontario, and attended high school in Listowell, Ontario. He received his professional education at Marquette University in Mil-

waukee, graduating in 1935. Following a year's postgraduate work at the University of Toronto he entered private practice in Listowell. In October, 1940 he joined the Corps and served in Canada, the United Kingdom and northwest Europe until October 1945 when he returned to private practice in Listowell. He rejoined the RCDC in April, 1948 and has served in Nos. 12, 13 and 14 Dental Companies.

Major Finkbeiner, who is married with two children, commenced retirement leave on April 1. He plans to continue his association with the Corps in a civilian capacity.

Captain R. D. Welsh of Lloydminster, Saskatchewan, has taken his release from the Corps on completion of his tour of duty to enter private practice. Captain Welsh, who is a 1956 graduate of the University of Alberta, was employed at RCAF Station, Sea Island, B.C., prior to his release on April 1.

Public Health

DENTAL SURVEY OF PRINCE EDWARD ISLAND CHILDREN

More than eight hundred 7-, 8-, 11-, and 13-year old children are being examined in this province as part of the nation-wide survey for the Canadian Dental Health Index organized by the Canadian Dental Association. The survey begins in Charlottetown and relates to communities with between 5,000 and 10,000 population. A minimum of 200 children are being examined in each of the specified age groups.

DENTISTRY FEATURED AT CPHA ANNUAL MEETING

The Hotel Saskatchewan, Regina, is the location of the 52nd Annual Meeting of the Canadian Public Health Association, June 6-8, 1961. The Dental Health Section will meet on Tuesday afternoon, June 6. On Wednes-

day morning, June 7 the Dental Health Section meets in joint session with the sections on medical care, medical officers, public health nursing, and health education. Section business meetings are slated for Wednesday afternoon.

A. E. Chegwin of Regina is chairman, and R. A. Connor of Winnipeg is secretary of the Dental Health Section.

W. A. ZACHERL



DR. ZACHERL APPOINTED NEW DENTAL DIRECTOR FOR EDMONTON

Saskatchewan-born Dr. W. A. Zacherl was recently appointed the first full-time director of Dental Health Services for the City of Edmonton. He succeeds Dr. M. B. Levitt, who served as director on a part-time basis.

Dr. Zacherl joined the R.C.A.F. in 1939 and served overseas as a navigator until 1945. Attracted to dentistry as a service career, he graduated from the University of Alberta in 1951.

He practised in Mayerthorpe and Edmonton before entering the field of public health as part-time dental health officer to the Jasper Place Health Unit. In 1959 he obtained his diploma in Dental Public Health from the University of Toronto and returned on a full-time basis to establish an excellent preventive dental program until accepting his present appointment.

PUBLIC HEALTH DENTIST RETURNS TO VANCOUVER

Dr. E. J. Hyde of the Greater Vancouver Metropolitan Health Committee has returned

following a year of postgraduate training in preventive dentistry at the University of Indiana. Dr. Hyde is a graduate of the Faculty of Dentistry, McGill University, 1945.

DENTAL PUBLIC HEALTH SEMINARS HELD IN ALBERTA

The third annual series of dental public health seminars has recently been completed in each of the five dental societies in Alberta.

Sponsored by the provincial Department of Health, and, assisted by funds from federal health grants, these two-day workshops have been very well attended throughout the province.

The content was directed towards the preventive aspects of dentistry. G. W. Street and G. K. Minty conducted all the seminars this year.

Dr. Street discussed interceptive orthodontic procedures, especially cross-bite problems. He gave lectures which were illustrated with slides and models, and also constructed appliances for clinical patients.

Dr. Minty reviewed various aspects of paedodontic practice covering the use of drugs in the management of difficult child patients, technique for stainless steel crown placement, and discussion of the physical and emotional development of children.

FLUORIDATION AROUND THE WORLD

Eight hundred thousand inhabitants of Chile are now benefiting from fluoridated water supplies. Fluoridation is carried out mainly through efforts of the National Health Service and the Department of Sanitary Engineering. Fluoridation has been stimulated by the School of Public Health of the University of Chile. The newsletter of the *Fédération Dentaire Internationale* reports that fluoridation is accepted by the dental profession and the public.

The government of Ireland has passed a bill obliging health authorities to make arrangements for the fluoridation of water supplies. A survey of the incidence of dental caries is to be carried out before the mandatory legislation is enacted.

Launceston city council, Tasmania, has voted in favour of fluoridating its water supply which serves about 50,000 people.

Brasilia, the new capital city of Brazil, has begun fluoridating its water. Service at the first three stations, serving about 200,000 people, started in September, 1960. Campinas, the 13th largest city, also recently started fluoridation.

In Toronto, Ontario, the city council approved fluoridation with one dissenting vote. A movement has been launched to compel Metropolitan Toronto Council, representing 13 area municipalities, to conduct a plebiscite on fluoridation.

The citizens of Leduc, Alberta, voted March 21 in favour of fluoridation. Of 1,369 eligible voters, 354 voted in favour and 113 against fluoridation. Leduc gets its water from Edmonton, where a fluoridation plebiscite will be held next fall.

Research

RADIOACTIVITY RESEARCH FURTHER CONFIRMS WATER FLUORIDATION'S SAFETY

Research employing radioactive fluoride has provided further evidence attesting to the safety of water fluoridation, a United States House of Representatives Subcommittee was told March 27 by Dr. Wallace D. Armstrong of the University of Minnesota Medical School. Dr. Armstrong testified that his studies demonstrate the "rapid and effective" excretion of fluoride in the urine. In other parts of his testimony, presented on behalf of the American Dental Association, Dr. Armstrong said the application of radioisotopes in dental research:

—Has revealed "unexpected biochemical and physiological processes in intact, mature teeth" which will "undoubtedly contribute to our ultimate understanding of dental caries and dental erosion."

—Will lead to the development of new, different and, hopefully, better kinds of fillings for caries.

Dr. Armstrong told the House Subcommit-

tee on Research and Development of the Joint Committee on Atomic Energy that his research indicates how the body regulates the content of fluoride in the blood and the body fluids. He said that in his studies an adult took 1.0 milligram of fluoride identified by the presence of some of the radioactive form. The fluoride, he explained, was absorbed from the intestine, entered the blood and was excreted into the urine. During the course of Dr. Armstrong's experiments, the concentrations of the radiofluoride in samples of blood plasma and urine were determined. These data were used to calculate the magnitude of the renal clearance of fluoride. Results showed that the fluoride present in 91 milliliters of blood plasma was excreted into the urine in one minute.

Dr. Armstrong, who is professor and chairman of the Department of Physiological Chemistry at Minnesota Medical School, also revealed that the body "has an ability to excrete fluoride which is far superior to that for chloride." This is of interest, he explained, because public water supplies are universally treated with chloride for purposes of purification. Referring to fluoridation of community water supplies as "perhaps the most important recent development in the prevention of disease," the witness declared: "Both the benefits and the health safety of water fluoridation have been amply proven mainly by examination of the 'Experiments of Nature.' The dental and general health examinations of persons who live in localities in this and other countries in which the fluoride content of the water is much elevated have clearly shown that optimum concentrations of water fluoride are innocuous to health."

CANADIAN WINS IADR AWARD

J. G. Dale, 1958 Toronto graduate and a member of the Canadian Dental Association, has won the Edward H. Hatton Award given annually for the best original research report by a novice investigator. He reported on studies of factors affecting bone resorption and on a new method of determining resorption rates.

Dr. Dale received the award at the recent meeting of the International Association of Dental Research. He is a research fellow at the Harvard School of Dental Medicine and the Forsyth Dental Infirmary for Children. Dr. Dale and his wife Anne are both prize-winning graduates of the Faculty of Dentistry, University of Toronto.

BOOK REVIEWS

Your Future in Dentistry

Prepared by: Raymond Cohen.
Published by: Burns & MacEachern Ltd.,
Toronto for Richards Rosen Press Inc.,
New York.
Pages: 153. Price: \$3.25.

When one is not a teenager it is difficult for him to assess the value of a book whose contents are directed to that age group. If the task is not easy for a reviewer it then must be of significantly greater complexity for a graduate dentist of mature years to write such a text in the first place. It would be an understatement to say that Dr. Cohen had admirably discharged this undertaking.

This book, one in the "Careers in Depth" series, attempts a definite exposition of dentistry as a career in order to assist students of high school age to assess their own capabilities, interests, and qualifications in the light of their adaptability to our profession. Following a brief history of dentistry, Dr. Cohen has the teenage reader share with him a typical day in his office. This chapter and the one which follows, "Personal Requirements for Practising Dentistry" are, perhaps, the two most helpful chapters in the book. The style of writing is particularly pleasing in that the author establishes a most informal and personal relationship with his teenage reader.

Specific requirements for dentistry are given in addition to a brief résumé of the responsibilities inherent in general practice, the various specialties, the armed forces, public health, teaching, research, and industry. With the exception of research, these topics are covered reasonably adequately. This reviewer would have appreciated a more comprehensive reference to fundamental research rather than leaving the inference that research in dentistry is essentially the development of new and improved materials.

An excellent chapter on "Women in Dentistry" has been included and within it the author makes a strong case for women entering this profession. But while he states that "The American population must be educated to more fully accept the female dentist" perhaps he, himself, reveals the all too

prevalent attitude when, in his introduction, after enunciating certain essential characteristics for anyone contemplating dentistry as a career, he asks the question, "Are you the man to fill this role?"

The various academic requirements, of necessity, must be modified for Canadian utilization. Any Canadian student reading this text should peruse the portions dealing with such information for their interest value only and he must not assume that admission requirements to Canadian dental schools are identical to those in the U.S.A.

Unquestionably this book, even though written for an American readership, could be employed with great benefit in the libraries of our secondary schools. It will serve the high school students best, however, when a counsellor has had the prior opportunity of providing orientation.

Wesley J. Dunn

Fluorine and Dental Health

Prepared by: Joseph C. Muhler and Maynard K. Hine.
Published by: Burns and MacEachern Ltd.,
Toronto, for Staples Press, London, 1960.
Pages: 201. Price: \$3.75.

This book is a compilation of a series of papers presented at the second symposium on fluoridation of public water supplies. The material presented at the first symposium was published in 1954 by the American Association for the Advancement of Science, and dealt primarily with the use of fluorides for the partial prevention of dental caries. The present collection deals entirely with the physiological and pharmacological aspects of fluoride when used in a concentration of one part per million in a communal water supply.

Among the topics presented are "Fluoride Toxicity" by F. H. Smith and H. C. Hodge, "Fluoride and Enzyme Inhibition" by W. J. Frajola, "Fluorides and Periodontal Health" by A. L. Russell and C. L. White, "Excretion of Fluoride" by E. J. Largent, and a number of other equally pertinent topics. The final chapter is a discussion by Muhler

as to whether or not fluorine may be considered a dietary essential. Each chapter is followed by an excellent and useful bibliography.

This book is of significance as an accumulation of much of the vast collection of material indicating the safety of water fluoridation from the standpoint of human health. It should form an excellent addition to a library and a valuable reference text on the subject of fluorides.

K. J. Paynter

Review of Dentistry

Edited by: Maynard K. Hine (30 Contributors).

Published by: The C. V. Mosby Co., St. Louis, 1961. Ed. 3.

Pages: 576. Price: \$9.00.

The reviewer tackled this recent book with rather mixed feelings. On the one hand, thoughts go back to many previous attempts in the publication of books which were generally designed to supply what the editors thought would be suitable answers to questions asked in American state board examinations. All left much to be desired. Then, too, there was the attempt to link up together, within two covers, a group of writers who would work together to produce an authoritative book on a broad series of subjects. The result has often been unsatisfactory. Even where the individual writers were men of ability, one has too often been disappointed in the joint work which as a whole was marred by overlapping and encroachment by some writers on the fields of others, while other portions have been missed completely.

There is emphasis in this book on the answering of questions on dental subjects, but it is so arranged as to give the impression of an excellent review of a subject. It is expertly handled by a group of some thirty men, each well known as an authority in his field. The editing has been carefully done so that there is no apparent overlapping.

The book is introduced with an excellent short preface by Maynard K. Hine, which is strongly recommended to all students entering into at least the clinical portion of the dental curriculum. It is so disappointing, even in the final year of the six-year course, to read papers by a student who, as Dr. Hine points out, does not do himself justice and, who by a considered study of his answers, could have acquitted himself much better. Dr. Hine's remarks on the different types of examination are valuable and helpful.

This book really lives up to the ambitious title of "A Review of Dentistry". Not only the undergraduate, but the graduate and practitioner will find here a valuable fund of information.

No review of this work would be complete without words of praise for the splendid job of printing and book binding done by the C. V. Mosby Company. The book is a joy to pick up, with over 500 pages of type script and an apparently very complete index of some 50 pages. The index, like the pages of the text, are on type areas some six by eight inches in size, with double columns to the page. The reviewer is particularly pleased because he has often criticised this firm in the past for using a form of binding which did not always stand up, so that the binding was liable to crack. Open this book at any point and it lies flat and even.

Each of the essential paragraphs opens with heavier case type, so that they stand out clearly and are easily located.

J. Stanley Bagnall

DENTAL PUBLICATIONS OF CANADA

The "Dalhousie Dental Journal" is published by the Dalhousie University Dental Students' Society, Halifax, N.S. The "Journal" appears several times each academic year. R. E. Hoar is the editor.

THE LIBRARY

Additions

- AMERICAN DENTAL ASSOCIATION. Specifications for dental materials, 1960-1961. Prepared by G. C. Paffenbarger, J. W. Stanford, and W. T. Sweeney for the Council on Dental Research, American Dental Association. 4th ed. Chicago, 1960. 88p. \$2.25.
- ASH, M. M. A handbook of differential oral diagnosis. St. Louis, Mosby, 1961. 234p. \$6.50.
- BELL, W. E. Temporomandibular joint disease; etiology, diagnosis, principles of treatment. A teaching manual for students and practitioners of dentistry. Dallas, J. A. Majors Company, 1960. 225p. illus. \$8.00.
- BHASKAR, S. N. Synopsis of oral pathology. St. Louis, Mosby, 1961. 502p. illus. \$9.75.
- BOWERS, W. F. & HUGHES, C. W. Surgical philosophy in the management of mass casualties. Springfield, C. C. Thomas, 1960. 204p. \$7.50.
- CHERASKIN, E. Diagnostic stomatology; a clinical approach. Toronto, The Blakiston Division, McGraw-Hill Book Company, Inc., 1961. 338p. illus. \$12.50.
- COMMISSION ON THE SURVEY OF DENTISTRY IN THE U.S. The survey of dentistry; the final report. Byron S. Hollinshead, Director. Washington, American Council on Education, 1961. 603p. \$10.00.
- DAVIES, G. N. & KING, R. M. Dentistry for the pre-school child. Edinburgh, Livingstone, 1961. 268p. illus. \$5.50.
- GEMMILL, P. F. Britain's search for health; the first decade of the National Health Service. Philadelphia, University of Pennsylvania Press, 1960. 171p. \$6.00.
- MELVILLE, T. H. & SLACK, G. L. Bacteriology for dental students. London, William Heinemann Medical Books, Ltd., 1960. 255p. illus. \$5.40.
- MUNDEL, M. E. Motion and time study; principles and practice. 3rd ed. Englewood Cliffs, N.J., 1960. 690p. illus. \$8.95.
- SCHEU, R. Wrought wire technique for partial dentures, translated by J. Allan Warr. Bristol, John Wright & Sons Ltd., 1960. 108p. illus. \$3.85.
- SIGERIST, H. E. On the sociology of medicine. Edited by Milton I. Roemer. New York, MD Publications, Inc., 1960. 397p. \$6.75.
- SILVERMAN, S. I. Oral physiology. St. Louis, Mosby, 1961. 533p. illus. \$15.00.

IN MEMORIAM

Trueman O. Forsythe—Dr. Trueman O. Forsythe of Manitoba, died on March 10. He was 67.

Dr. Forsythe was born in Nova Scotia. In 1915 he graduated from Tufts University Dental School and set up practice in Winnipeg.

Charles L. Daly—Mr. Charles L. Daly of Toronto died on March 6, 1961. He was 86.

Mr. Daly was born in Fergus, Ontario, in 1875. He moved to Toronto at an early age and received his education there. Though first a jeweller, he established his own dental laboratory in 1905. Mr. Daly was an honorary life member of the Toronto Study Club of Dental Technicians. He also served on the governing board of Dental Technicians of Ontario.

Mr. Daly was predeceased by his wife, Caroline Ellen in 1954; also a son and a

daughter. He is survived by one son, Kenneth M.

John Roland Crockett—Dr. John Roland Crockett of Vancouver, B.C., died on March 18, 1961. He was 72.

Dr. Crockett was born in Prince Edward Island in April 1888. He graduated from the Royal College of Dental Surgeons of Ontario in 1916. In 1931 he registered in British Columbia and practised in Vancouver and outlying towns.

Dr. Crockett is survived by a son and three grandchildren.

**The Canadian Society of Oral Surgeons
8th Annual Scientific Meeting, Sunday June 4, 1961
Bessborough Hotel, Saskatoon, Saskatchewan**

PROGRAM

- | | |
|------------------------------------|--|
| Dr. Lyall Bishop,
San Francisco | Essayist — Surgery in Orthodontics (including a motion picture: The Orthodontic Concept in Relation to Oral Surgery)
— The Future of Oral Surgery, Anaesthesiology and Hospital Dental Practice.
<i>Dr. Bishop is on the staff of the College of Physicians and Surgeons, San Francisco, California. He is president-elect of the American Society of Oral Surgeons.</i> |
| Dr. R. S. Locke,
Toronto | Essayist — Anaesthesia, the newer agents, and a special technique for the use of Halothane (Fluothane). |
| Dr. J. Passalis,
Winnipeg | Essayist — Hospital Procedure for Oral Surgery and Ridge Preparation. |
| Dr. K. Lindsay,
Vancouver | Essayist — Radiation Necrosis of the Teeth and Jaws. |

There will be an Annual Business Meeting followed by a Cocktail Hour.

THE CANADIAN DENTAL ASSOCIATION

60th Annual Meeting

Board of Governors' Meeting May 31 - June 3

Convention

June 4 - June 7

Beautiful Saskatoon is one of the fastest growing cities in Canada. Modern and progressive in every respect it is the educational and medical centre of the province of Saskatchewan. The city is within easy driving distance of beautiful lakes and historical sites. The Western Development Museum, unique in Canada, portrays the history of the Canadian West. The museum is situated in Saskatoon. The dam development harnessing the mighty South Saskatchewan River lies just to the south of Saskatoon.

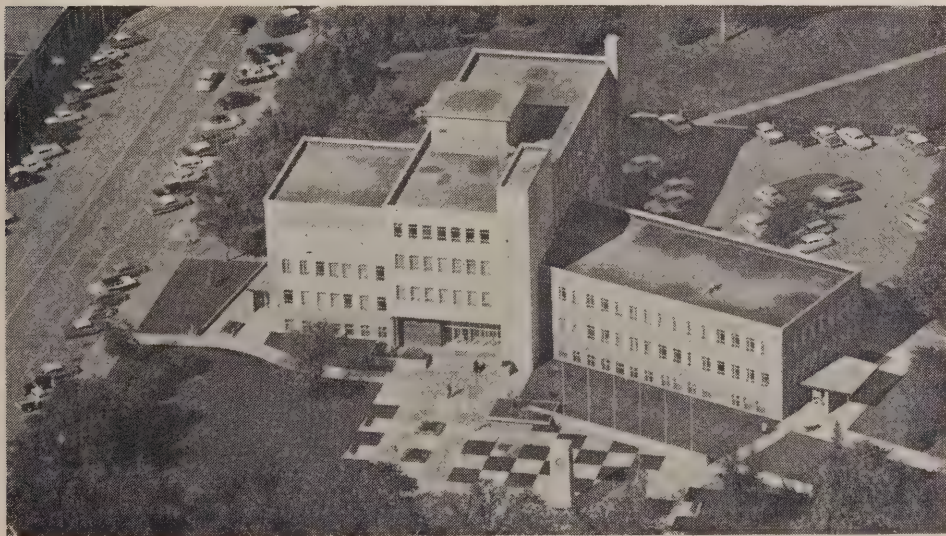


Photo by Len Hilliard, Saskatoon

CITY HALL, SASKATOON, SASKATCHEWAN

CONDENSED PROGRAM

CLINICIANS AND ESSAYISTS

Dr. G. F. McGee	University of California	Prosthodontics
Dr. A. Elfenbaum	Northwestern University	Oral Diagnosis
Dr. L. O. Bishop	College of Physicians and Surgeons, San Francisco	Oral Surgery
Dr. Wendell Wyllie	University of California	Grieve Memorial Lecture

TABLE CLINIC DEMONSTRATIONS

Dalhousie University	Orthodontic Techniques
McGill University	Endodontics
	Use of Plastics in Facial Reconstruction
Université de Montréal	High Speed, Rubber Dam, and Tissue Reaction accompanying the use of high speed turbines.
University of Toronto	Periodontics
	Orthodontics
University of Manitoba	Gold Foil Restoration
	Fixed and Removable Temporary Splints
	Silver Plating
	Details of the Surgical Flap in Tooth Removal
	Crown and Bridge Abutment Construction
	Recent Advances in Endodontics
	Denture Occlusion (Progressive Table Clinic)
University of Alberta	Prosthodontics
	Amalgam Restoration
	Radiology
Department of National Defence	Dental Officer's Role in Casualty Care During a National Emergency
The Kelvin Dental Group (Drs. A. H. Frankel, S. Katz and S. R. Katz)	Subperiosteal Mandibular Splint
Dr. S. Norquay	Pin Retention in Bridgework
Dr. G. W. Street	Preventive Orthodontics
Dr. M. J. Lipkind	Endodontics
Dr. J. J. Schachter	Orthodontics
Dr. T. J. Cooke	Crown and Bridgework Problems
Dr. R. Morrison	Oral Surgery
Dr. P. Luxford	Oral Surgery
Dr. J. A. Ludwig	Tumours and Cysts of the Mandible and Maxilla
Dr. S. Borden	Periodontal Therapy
Dr. B. L. Kuzyk	Paedodontics
Dr. F. A. Folkins	Control of Haemorrhage
Dr. H. E. Simmons	Exodontia and Minor Oral Surgery

REGISTRATION FORM

ANNUAL MEETING
Canadian Dental Association
Western Canada Dental Society

Dr. Arthur Singer,
414 Canada Building,
Saskatoon, Saskatchewan

Saskatoon, Saskatchewan
June 4-7, 1961.

NAME
ADDRESS
CITY PROVINCE
WIFE'S NAME
Golf — Yes No

REGISTRATION FEE

Single \$50.00
Wife Free
Includes the President's Dinner and
all Official Functions.

HOUSING ACCOMMODATION APPLICATION

Bessborough Hotel	Single..... Twin Beds..... Double.....	\$7.50 - \$13.50
King George Hotel	Single..... Twin Beds..... Double.....	6.50 - 12.00
Senator Hotel	Single..... Double.....	6.50 - 8.50
Parktown Motor Hotel	Single..... Twin Beds.....	8.00 - 11.00

REQUESTS FOR ACCOMMODATION MUST BE ACCOMPANIED BY
REGISTRATION FEE

See Saskatoon in 1961 by attending the Combined Convention of the CANADIAN DENTAL ASSOCIATION and the WESTERN CANADA DENTAL SOCIETY.

Make plans for unexcelled fishing for Lake Trout, Walleye Pike, and Arctic Grayling in Northern Saskatchewan following the Convention. Play Golf on excellent courses. Bring your camera to photograph historical sites and scenic beauty. Visit the South Saskatchewan River Dam Development. FUN FOR THE WHOLE FAMILY.

For further Tourist Information, contact Dr. S. R. Gelmon, 519 Medical Arts Building, Saskatoon, Saskatchewan.

Advanced and early registration will be very much appreciated and will be most advantageous to the registrant.

ANNOUNCEMENTS

Conventions of the Canadian Dental Association

1961	Saskatoon, Saskatchewan	June 4th-7th
1962	Vancouver, British Columbia	June 3rd-6th
1963	Toronto, Ontario	May 19th-22nd
1964	Edmonton, Alberta	June 28th-July 1st
1965	Quebec City, Quebec	May 30th-June 2nd
1967	Toronto, Ontario	May
	(Centennial Celebration of Dentistry in Canada)	

FUTURE EVENTS

Date	Function	Location	Officer	Address
May 20, 1961	Canadian Soc. Dentistry for Children Ontario Chapter	King Edward Sheraton Hotel, Toronto, Ont.	Dr. D. L. Rife,	3014 Bathurst St., Toronto, Ont.
May 21, 1961	Canadian Academy of Periodontology	Royal York Hotel, Toronto, Ont.	Dr. D. S. Moore,	705 Professional Arts Bldg., Hamilton, Ont.
May 21-24, 1961	Ontario Dental Association	Royal York Hotel, Toronto, Ont.	Mrs. W. C. Durham,	230 St. George St., Toronto 5, Ont.
May 22, 1961	Ontario Society of Orthodontists	Royal York Hotel, Toronto	Dr. R. D. Leuty,	2 Bloor St. East, Toronto, Ont.
May 25-27, 1961	Dental Association of the Province of Quebec	New Sherbrooke Hotel, Sherbrooke, Que.	Dr. C. Tessier,	260 Ball St., Sherbrooke, P.Q.
June 1-4, 1961	Swiss Dental Society Jubilee Congress	Basle, Switzerland	Dr. H. Michel,	Eisengasse 8, Basle, Switzerland.
June 18-23, 1961	British Dental Association	Harrogate, England	Mr. J. Peacock,	13 Hill St., London W.1., England.
July 2-5, 1961	Atlantic Provinces Dental Convention	Charlottetown, P.E.I.	Dr. L. I. Duffy,	302 Queen St., Charlottetown, P.E.I.
July 9-15, 1961	Fédération Dentaire Internationale	Helsinki, Finland	Dr. G. H. Leatherman,	25 Devonshire Place, London W.1., England.
Aug. 14-18, 1961	16th Australian Dental Congress	Sidney, Australia	Mr. D. Freeman,	T. & G. Building, Park St., Sidney, Australia.
Sept. 12-15, 1961	2nd Intl. Czechoslovak Stomatol. Congress	Marienbad, Czechoslovakia	Dr. F. Urban,	Karlovo nám. 32, Prague 2, Czechoslovakia.
Sept. 17-19, 1961	Eastern Ontario Dental Association	Chateau Laurier Hotel, Ottawa	Dr. H. B. Squires,	142 Laurier Ave. West, Ottawa, Ont.
Oct. 13-15, 1961	German Dental Association	Mainz, West Germany	Dr. P. Jaeger,	Nikolaistrasse 2, Munich 23, W. Germany.
Oct. 16-19, 1961	American Dental Association	Philadelphia, Pennsylvania	Dr. G. N. Casto, Jr.,	222 East Superior St., Chicago 11, Illinois.
Oct. 23-25, 1961	Montreal Dental Club Annual Fall Clinic	Queen Elizabeth Hotel, Montreal	Dr. J. Vincelli,	6542 Somerled Ave., Montreal, P.Q.
Nov. 12-19, 1961	Uruguay-Argentine Intl. Dental Congress	Montevideo, Uruguay	Dr. J. C. Turrell,	Av. Agraciada, 1464 (p. 13) Montevideo, Uruguay.
Dec. 27-31, 1961	Alpha Omega Fraternity	Queen Elizabeth Hotel, Montreal	Dr. F. Vosburg,	5292 Queen Mary Rd., Montreal, P.Q.

POSTGRADUATE AND REFRESHER COURSES (Canada)

ALBERTA—The Faculty of Dentistry offers a postgraduate course in PAEDODONTICS, May 29-June 1, 1961. The course will be directed by Dr. C. R. Castaldi. Tuition fee \$80.

The Faculty of Dentistry, University of Alberta offers a postgraduate course in ORAL DIAGNOSIS, SURGERY and PATHOLOGY, September 11-14, 1961. The course will be directed by Dr. K. M. McMurphy. Tuition fee \$75.

The Faculty of Dentistry, University of Alberta offers a postgraduate course in ORAL ROENTGENOLOGY, October 4-6, 1961. The course will be directed by Dr. H. R. MacLean. Tuition fee \$60.

The Faculty of Dentistry, University of Alberta offers a postgraduate course in AMALGAM RESTORATIONS, October 9-11, 1961. The course will be directed by Dr. G. H. Gibbs. Tuition fee \$60.

Inquiries and requests for application forms should be directed to the Director, Postgraduate Division, Faculty of Dentistry, University of Alberta, Edmonton, Alberta.

L'Association Dentaire Canadienne.

JOURNAL

Volume 27

Numéro 5

mai 1961

Prise de conscience de la situation dentaire au Québec*

RÉPERCUSSION DE L'ENQUÊTE AMÉRICAINE SUR LES MESURES QUI
S'IMPOSENT DANS L'INTÉRÊT DE NOTRE POPULATION

Introduction

GÉRARD de MONTIGNY, Montréal, P. Québec.

En 1957, l'Association dentaire américaine — qui est l'organisme national des dentistes le plus puissant et le mieux organisé au monde — entreprenait une vaste enquête dans tous les secteurs qui ont un rapport avec la dentisterie.

Cette enquête a duré trois ans et la Commission chargée de ce travail a remis son rapport à la fin de l'année 1960.

On avait choisi pour cette accumulation de renseignements seize personnes qui avaient fait leur marque dans des disciplines différentes: affaires, finances,

sociologie, syndicalisme, éducation, chirurgie dentaire.

La compétence des enquêteurs conférait d'avance à leurs conclusions et surtout à leurs recommandations une objectivité et une portée considérables. Cette étude, qui est la plus importante jamais entreprise sur la question dentaire en aucun temps et en aucun pays, fut financée au coût d'un demi-million de dollars par diverses fondations philanthropiques et par l'Association dentaire américaine.

L'ampleur du projet, l'importance des recommandations du rapport—qui s'intitule "Dentistry in the United States, Status, Needs and Recommendations"—

*Colloque tenu, le 16 mars 1961, à l'Université de Montréal.

et la similitude de la situation qui existe au Canada et aux Etats-Unis ont incité la faculté de chirurgie dentaire de l'Université de Montréal à étudier attentivement ce rapport pour aider la profession, conjointement avec les autorités sanitaires de cette province, à solutionner, sinon totalement, du moins en partie, le problème dentaire qui se pose dans notre société québécoise. A son sens le plus complet, le climat dentaire des Etats-Unis est semblable à celui du Canada et de la province de Québec: le système universitaire pour la formation des dentistes est à peu près le même; les connaissances de la population en hygiène sont sensiblement identiques; les besoins des habitants des deux pays pour des soins dentaires se ressemblent; les relations qui existent entre les gouvernements et les organismes autonomes de la chirurgie dentaire s'inspirent de la même idéologie démocratique.

C'est pourquoi, nous croyons que les remèdes suggérés par la Commission des Etats-Unis pourraient s'utiliser dans notre milieu. On peut se demander les raisons qui ont motivé cette enquête. On peut résumer ces motifs dans une seule pensée: une profession a des responsabilités envers le public qu'elle est appelée à servir. Ces responsabilités varient selon les époques, selon les besoins et selon la mentalité sans cesse en évolution de la population.

Toutes les professions, d'ailleurs, parce qu'elles constituent les seules entités aptes à juger, à la lumière des progrès scientifiques et à la lumière des besoins et des exigences de la population, ces professions, donc, doivent évaluer de temps à autre leur rendement et leur adaptation aux facteurs économiques et sociaux du contemporain.

Les groupements professionnels entreprennent alors à l'occasion des inventaires ou des examens de conscience pour se rendre compte s'ils répondent bien à leurs responsabilités envers leurs concitoyens.

La profession dentaire a fait le point dans ce sens à différentes reprises dans le

passé et des études—notamment celles de 1926 et celles de 1941 — l'ont portée à modifier alors son orientation.

D'autres facteurs d'ordre occasionnel justifiaient cette enquête. Contentons-nous d'en énumérer quelques-uns: la tendance à la socialisation des systèmes de santé; la baisse générale du nombre des candidats aux études dentaires; la modification des concepts de l'exercice dentaire, qui délaisse les techniques pour se diriger vers la prévention; l'amélioration des cours d'études qui accordent une place plus grande aux recherches; enfin la lutte apparemment stérile de la profession contre des maladies dentaires qui augmentent sans cesse en volume.

L'unique problème, en somme, qu'a tenté de solutionner la commission américaine est le suivant:

Pourquoi les Etats-Unis, qui sont un pays riche, qui possèdent des universités et un système de recherches bien organisées, qui ont le sens de la production, pourquoi ce pays, dis-je, montre-t-il des déficiences aussi évidentes au point de vue de santé dentaire?

Le rapport indique que chaque américain de moins de 50 ans a, en moyenne, 4 caries dans ses dents: 50% des gens de 50 ans ont des maladies des gencives; à 65 ans, tous les habitants de ce pays souffrent de leurs gencives. Les chiffres indiquent, en outre, que seulement 40% de la population visite le dentiste régulièrement; 30%, occasionnellement; 30%, à peu près jamais.

Le problème, tel que posé, à des répercussions nombreuses, professionnelles, sociologiques, sanitaires, économiques, éducationnelles; le problème est grave et les dirigeants de notre société ont le devoir d'y apporter les solutions qui s'imposent.

Le nœud de ce problème ne se situe pas dans la multitude des maladies dentaires, mais dans le fait que le peuple américain et aussi le peuple canadien ont les ressources nécessaires pour enrayer ces maladies et qu'ils ne les utilisent pas convenablement.

Quelles raisons expliquent cet écart entre l'actuel et l'idéal?

Ces raisons peuvent se classer en quatre catégories principales:

1. apathie de la population pour l'hygiène dentaire;
2. carence dans le nombre des dentistes;
3. manque de moyens pécuniaires dans certaines classes de la population et absence d'organisation pour les économiquement faibles;
4. mauvaise orientation ou conception erronée de l'exercice de la part des praticiens; ceux-ci ne s'appliquent pas assez à la prévention et à l'augmentation de leur rendement.

D'autres raisons secondaires contribuent aussi à une situation déplorable; je ne mentionne — et il y en a d'autres — que le coût considérable des études dentaires, la mauvaise distribution des dentistes dans les centres ruraux, l'absence de mystique chez la plupart des praticiens, etc, etc.

Les mêmes questions se posent dans notre province et dans une proportion beaucoup plus considérable.

Ne citons qu'une comparaison: les Etats-Unis disposent d'un dentiste pour 1,900 habitants; nous n'en avons qu'un pour 3,000 Canadiens. La situation est certes

plus sérieuse à tout point de vue dans notre pays et surtout dans notre province.

C'est pourquoi, les dentistes veulent porter à la connaissance de ceux qui s'intéressent à la santé de notre population les recommandations de cette commission américaine et d'en suggérer des applications pratiques dans notre milieu. Ces recommandations sont divisées en quatre parties: hygiène ou santé dentaire, exercice ou pratique, enseignement, recherches.

C'est dans cet ordre que les panellistes traiteront de cette prise de conscience de la situation dentaire du Québec.

SUMMARY

EXAMINATION OF THE DENTAL STATUS IN QUEBEC: INFLUENCE OF THE AMERICAN SURVEY ON INCUMBENT MEASURES FOR THE BENEFIT OF THE POPULATION.

The Commission on the Survey of Dentistry in the United States' report will have a considerable impact on all aspects of dentistry in America. Therefore the Faculty of Dental Surgery of the University of Montreal has presented to an audience interested in health matters a study of this survey, as it applies to local conditions in the province of Quebec. This study is divided in four parts: dental health, practice, education, research.

La pratique dentaire

JEAN YERGEAU, Montréal, P. Québec

Qu'on l'admette ou non, le personnage clef dans toute tentative pour étendre les soins dentaires à toute la population sera toujours le praticien. Sans sa collaboration, rien ne peut porter fruit de ce que les éducateurs, les hommes de recherche ou les officiers de la santé publique peuvent entreprendre.

Or, vous savez que, même aujourd'hui, les dentistes réunis ne suffiraient pas à rendre à la population tous les services

dentaires dont elle aurait besoin. Et l'on envisage que dans quelques années la disproportion sera encore accrue entre les besoins grandissants et le nombre de ceux qui pourront y répondre.

L'objet de ce présent travail sera donc de jeter un regard sur la pratique dentaire actuelle et de suggérer certaines formules susceptibles d'accroître l'efficacité du praticien dentaire.

Partant de ces considérations, nous

examinerons successivement cinq aspects de la pratique dentaire où il semblerait nécessaire d'opérer des réformes:

1. la santé publique et le praticien,
2. la dentisterie préventive,
3. la production en cabinet,
4. le rôle du bureau des examinateurs,
5. la dentisterie à hôpital.

1er aspect: la santé publique et le praticien.

La santé dentaire publique relève d'organismes spéciaux, il est vrai, mais il n'en reste pas moins nécessaire que chacun des dentistes se doit d'épauler ces organismes par une participation active à leurs campagnes, plutôt que par une simple approbation trop souvent tacite. Une enquête, simple exemple, auprès de 758 dentistes américains, a montré que seulement 37% de ceux-ci avaient participé aux campagnes de fluoration des eaux potables dans leurs municipalités respectives.

Nous suggérons que chacun de nous voit, dans ses contacts quotidiens avec le patient, l'occasion de semer les bonnes idées, de les cultiver, d'éveiller l'intérêt à des questions comme celles-ci: l'alimentation, l'hygiène buccale, les troubles gastriques dus à un appareil masticateur en mauvais état, etc. Ce serait là un apport immense au travail des organismes de santé publique, apport d'autant plus précieux, parce que constamment soutenu.

2e aspect: la dentisterie préventive en pratique privée.

Ici, l'enquête a donné des résultats peu encourageants, voire même gênants. L'on considère que les critères suivants caractérisent une pratique préventive, à savoir:

- Curetage et polissage de routine afin d'enlever les calculs, cause de troubles périodentaires.
- Application topique de fluor.
- Emploi de radiographie à chaque examen.
- Rappel périodique des patients pour vérification.

Partant de ces critères, l'on estime que seulement la moitié des dentistes font de la prévention. Plusieurs concèdent que la fabrication d'une pièce les intéresse beaucoup plus que la prévention. D'autres déplorent le fait que la prévention leur rapporte moins que la restauration. A la suite d'un questionnaire demandant de placer par ordre neuf opérations dentaires selon les honoraires qu'elles commandent, la plupart ont placé en tête les couronnes et les ponts et, au dernier rang, la prophylaxie. Eh bien! Si nous avons jamais l'intention de tenir en échec les maladies dentaires, il faudrait que et le dentiste et le patient donnent la priorité à un traitement qui prévient plutôt qu'à celui qui ne fait que réparer. Et par ce moyen, un grand nombre d'obturations, de ponts, de dentiers seront ainsi évités, laissant de ce fait encore plus de temps pour plus de prévention à plus de patients.

La Commission recommande donc que chacun reconnaisse l'importance primordiale de la prévention en utilisant tous les moyens possibles de la prévention et en persuadant le patient d'admettre le besoin de la prévention. Elle recommande en plus que la profession, les facultés dentaires, etc., prennent les moyens de rétrécir le fossé qui existe entre les grands besoins d'orthodontie préventive d'une part et le petit nombre d'autre part de ceux qui peuvent s'en occuper.

3e aspect: la productivité en cabinet.

Les besoins sont grands, mais les dentistes sont peu nombreux. Il faut donc trouver des moyens d'accroître la productivité en cabinet dentaire. Il y a plusieurs façons dont le travail en équipe, le travail à plusieurs fauteuils et un plus grand recours aux services du personnel auxiliaire.

Les dentistes ont l'habitude de pratiquer en solo, mais depuis plusieurs années se développe une tendance à l'association de plusieurs confrères sous un même toit. Il est à remarquer qu'une telle

formule justifie l'emploi d'un personnel auxiliaire varié et personne ne doute que les auxiliaires accroissent le rendement d'un cabinet dentaire. D'après une récente enquête, un dentiste seul peut répondre annuellement aux besoins de 700 patients, alors qu'aidé de deux auxiliaires il peut augmenter son travail de 65%, c'est-à-dire qu'il peut répondre à 1200 patients.

Mais le service auxiliaire, que peut-il être? Une assistante, une hygiéniste, un technicien, une réceptionniste, une secrétaire. Les fonctions de l'assistante, tous les connaissent, de même que celles de la réceptionniste, de la secrétaire et du technicien. Mais celles de l'hygiéniste dentaire, moins, parce que ces dernières n'existent pas dans la province. Aux Etats-Unis, l'hygiéniste est cette personne qui, après un cours de 2 ou 4 ans (selon les Etats), se voit octroyée une licence lui permettant de traiter le patient pour effectuer des opérations aussi simples qu'un curetage supra gingival.

Plusieurs facteurs cependant empêchent de bénéficier de l'avantage marqué du service auxiliaire. D'abord, une insuffisance numérique. Les assistantes ne sont pas assez nombreuses, les hygiénistes n'existent pas chez nous, les bons techniciens sont trop rares. Pour répondre aux besoins pressants de la profession, il faudrait, semble-t-il, que celle-ci prenne des mesures visant à favoriser l'organisation d'écoles d'assistantes dont elle surveillerait l'entraînement et qu'elle accréditerait de façon à marquer une différence entre une assistante diplômée et une assistante entraînée par celui qui l'embauche.

Il faudrait aussi et surtout songer à la formation d'hygiénistes dentaires qui seraient au dentiste ce que l'infirmière est au médecin. Est-ce que l'on pourrait un seul instant oser penser à ce qui adviendrait si, du jour au lendemain, l'on faisait disparaître les infirmières médicales. Alors pourquoi la profession ne songerait-elle pas à s'entourer d'un service auxiliaire efficace qui pourrait décharger le dentiste d'une foule d'opérations qui ne

nécessitent pas la compétence d'un D.D.S., comme, par exemple, le curetage simple, la prise d'empreinte pour modèles d'étude, la radiographie ordinaire, le polissage des amalgames, des silicates, la mise en place de la digue, etc. Toutes ces opérations consomment un temps précieux du praticien qui pourrait avec de telles auxiliaires compétentes équiper jusqu'à quatre fauteuils et servir un plus grand nombre de patients.

Il faudrait en plus encourager l'élément masculin à s'adonner au service auxiliaire. Les forces armées ont démontré d'une façon péremptoire que les hommes deviennent de très bons auxiliaires, qu'ils peuvent en faire une carrière et de ce fait continuer leur service même après le mariage, ce qui n'est pas toujours le cas chez la femme qui doit éventuellement laisser son travail pour s'adonner aux besoins de son foyer.

Maintenant dans le champ du laboratoire dentaire, le problème du technicien bien entraîné en est aussi un vrai. En ce qui concerne les fonctions du technicien, le problème n'est pas de les élargir, mais bien plutôt de confirmer le technicien à l'intérieur des limites de ses prérogatives.

Bref il faudrait peut-être suggérer que:

1. Les dentistes utilisent un plus grand nombre d'auxiliaires bien entraînés.
2. Des écoles surgissent pour bien entraîner ces auxiliaires.
3. La profession dentaire standardise les programmes pour ces écoles. Dans l'intérêt du public, l'éducation du personnel auxiliaire devrait se poursuivre sous l'égide de la profession.
4. La profession accrédite ces écoles et prenne les mesures pour que, petit à petit, n'aient le droit de pratiquer légalement que ceux qui sont à la hauteur de ces standards.

4e aspect: le rôle du bureau des examinateurs.

Depuis l'an dernier, et la Faculté et le Collège des Dentistes essaient de concert de trouver une formule heureuse pour évaluer la qualification d'un candidat au

doctorat et à la licence. Qu'il me soit donc permis comme à tout le monde d'en espérer une heureuse issue.

Cependant, il est regrettable de constater que les examens de compétence s'arrêtent la veille de l'ouverture d'un cabinet dentaire. Il n'y a aucun moyen de forcer un praticien à maintenir sa compétence et à évoluer en parallèle avec les développements qui surviennent d'année en année. On exige un renouvellement de la licence, mais en aucun cas ce renouvellement n'est solidaire d'une preuve d'amélioration ou du seul maintien de la compétence. Pourtant, à chaque année, les dentistes se voient offrir des cours post-scolaires, des cours de perfectionnement; ils sont invités à des conférences, à des congrès etc. Trop peu hélas s'y laissent tenter.

L'on pourrait ici suggérer que la profession explore les possibilités de différents programmes susceptibles d'être adoptés en vue d'assurer l'évolution progressive du praticien.

5e aspect: dentisterie à l'hôpital.

Si la dentisterie doit envisager comme but de pourvoir à la santé dentaire de la population, elle ne peut continuer d'être centrée sur le cabinet et le laboratoire uniquement. Il est certainement possible et désirable que les dentistes participent aux services de santé en général en exerçant à l'hôpital avec un statut égal à celui de n'importe quel praticien qui s'occupe de la santé.

Il faut entrevoir le jour où le dentiste à l'hôpital ne verra pas son travail limité à la chirurgie, où il fera un examen de routine des patients comme les autres praticiens, avec le résultat qu'il pourra recommander que les dents d'un patient soient enlevées ou traitées rappelant à qui de droit que l'appareil masticateur est le seuil de l'appareil digestif et qu'il pourra proposer des modifications au traitement médical en regard de certains symptômes marqués dans la bouche.

La Commission d'enquête, après avoir

examiné la situation de la dentisterie à l'hôpital, suggère que:

1. Dans l'intérêt de la santé totale du patient, les hôpitaux et les sociétés dentaires travaillent de concert à l'établissement de départements dentaires et encouragent les dentistes à participer au service hospitalier.

2. Les départements dentaires à l'hôpital se voient attribuer une autorité et une responsabilité administrative égales à celles des autres services.

3. La dentisterie soit représentée à la Commission d'accréditation des hôpitaux.

4. Une grande coopération soit développée entre la profession dentaire et les responsables des programmes d'assurance-santé, afin de pouvoir répondre aux besoins de la population en matière de santé totale.

Pour conclure, rappelons que le problème est celui-ci: qu'il faut atteindre tout le monde avec notre petit effectif de praticiens et qu'il faut donc trouver moyen d'accroître l'efficacité et le rendement de notre travail par:

1. Une participation plus active aux campagnes visant à améliorer la santé dentaire publique.

2. Une insistance marquée sur les soins préventifs.

3. Un plus grand recours au personnel auxiliaire.

4. Une amélioration constante de nos connaissances.

5. Une collaboration plus étroite entre ceux qui s'occupent de la santé en général et ceux qui s'occupent de la santé dentaire.

SUMMARY: DENTAL PRACTICE

Some means are suggested to increase productivity in the dental office: more auxiliary personnel, group practice, periodical evaluation of the continuing qualification of dental practitioners, active participation of dentists in general health campaigns, recognition by the practitioners of the value and practice of prevention.

La santé dentaire

J. CLARENCE BOUILLON

De tous les problèmes que rencontre le praticien dans l'exercice quotidien de sa profession, il n'y a aucun doute que la carie dentaire est celui qui requiert le plus ses services par ordre de fréquence. En effet, on peut supposer que les trois-quarts de ses heures de travail sont affectés à l'obturation ou à l'extraction et l'autre quart en grande partie à remplacer par des pièces de prothèse les dégâts causés par la perte, en totalité ou en partie, d'une denture bien souvent négligée.

Le problème de la carie est tellement hors de contrôle qu'on estime que, pour chaque dent obturée, six caries nouvelles se développent.

Le coût des honoraires versés annuellement aux Etats-Unis pour services dentaires est estimé à \$2,400,000,000. Au Canada, il en coûte approximativement \$90,000,000. pour rencontrer environ le quart des besoins.

En plus d'être un problème économique, la santé dentaire est aussi un problème social; 95 à 98% de la population en sont victimes à un moment ou l'autre de la vie.

L'âge n'est pas un facteur, puisque les statistiques démontrent que, dès l'âge de trois ans, 80% des enfants en sont atteints. A 50 ans, 60% des individus sont porteurs d'une prothèse complète, soit du haut ou du bas, soit les deux.

En regard de la population de la province de Québec qui est de 5,170,000, si nous acceptons l'équilibre suggéré dans le récent rapport de l'enquête sur la dentisterie aux Etats-Unis de 1 dentiste par 1,000 patients, il est évident que notre potentiel en pratique active, 1,300 environ, ne peut même pas rencontrer le quart des besoins existants.

Considérée sous un autre angle, j'ai relevé la population du groupe 3 à 16 ans qui est de 1,423,000. Si l'on suppose une

moyenne bien conservatrice de 3 caries par individu, à 6 heures de travail par jour, à raison d'une obturation à la demi-heure, cela exigerait 356,000 jours de travail ou 18 mois (1 an et demi) de tous les dentistes de la province, environ 1,300, pour compléter la correction nécessaire.

Ce travail ne serait pas terminé qu'il faudrait dès la fin du douzième mois une équipe de 600 dentistes additionnels pour corriger l'incidence qui se développe au rythme de une carie en moyenne annuellement. Pourtant, ce groupe ne représente qu'un peu plus du quart de la population totale de la province et nous ne considérons qu'un aspect des problèmes multiples que rencontre le dentiste dans l'exercice de sa profession.

Je crois qu'il est inutile d'insister davantage pour démontrer que le nombre de dentistes actuellement en pratique active est insuffisant pour rencontrer les besoins existants. Au lieu d'être 1/1,000 de population, ou 1/1,500, le rapport est de un dentiste pour près de 4,000.

Si la population du Montréal métropolitain est assez bien servie avec ses 770 dentistes, il n'en est pas de même pour le reste de la province où le rapport serait de 1/6,300 de population. La mauvaise distribution des dentistes dans les différentes régions ne fait qu'augmenter la complexité du problème de la santé dentaire.

Avec l'accroissement annuel de la population, comparativement au nombre décroissant de nouveaux diplômés depuis quelques années, auxquels il faut ajouter ceux qui nous quittent, soit par la mort ou la retraite de la pratique active, nous nous dirigeons vers une situation apparemment sans issue. Cette situation, à un degré moindre, se présente aux Etats-Unis; mais le mal de l'un ne guérit pas celui de l'autre.

Evidemment, cette constatation est faite en regard des besoins existants; en réalité, nous pouvons estimer que le nombre de dentistes actuellement disponibles suffit à la demande, mais même si nous avions un effectif suffisant pour rencontrer tous les besoins, il y aurait toujours des obstacles à l'extension totale des services nécessaires.

Un de ces obstacles est que, même dans un pays comme le nôtre, il y aura toujours des gens qui financièrement ne pourront se permettre des services dentaires adéquats; d'autres refuseraient de se faire traiter, même si les services étaient gratuits. Il y en a même qui, bien qu'économiquement stables, n'apprécient pas la valeur des services que nous pouvons leur rendre.

Aussi longtemps que la recherche n'aura pas trouvé des mesures préventives faciles d'application contre la carie, nos organismes professionnels en collaboration avec nos pouvoirs publics doivent orienter tous leurs efforts vers l'application des meilleures méthodes de prévention et de traitement possibles à la population.

Deux projets à long terme peuvent être considérés:

1^o *Une campagne d'éducation intense et bien coordonnée* doit être organisée au niveau provincial pour promouvoir l'importance de la santé dentaire comme facteur de santé générale et les mesures applicables pour sa réalisation;

2^o *L'organisation d'un plan de traitement* qui sera accessible à ceux qui sont médicalement indigents et l'application d'un plan de paiements différés pour ceux dont le budget ne peut supporter le fardeau financier additionnel que seraient les honoraires exigés pour services dentaires.

Considéré dans toute son objectivité, le problème de la santé dentaire peut être résolu par l'application effective de deux méthodes connues et admises par tous: la *prévention* et la *correction*. Mais l'efficacité de ces méthodes dans leur application ne peut être complète sans un *programme d'éducation bien équilibré*.

L'éducation en hygiène dentaire peut se concevoir et s'appliquer dans des circonstances variées et parfois fort différentes; ce peut être l'initiation d'une campagne pour la promotion d'une mesure d'hygiène publique jusqu'à l'enseignement de l'hygiène au niveau des écoles primaires.

De toutes les mesures préventives, celle qui nous intéresse particulièrement, c'est la fluoration.

Dans toute l'histoire de l'hygiène publique, jamais une mesure prophylactique ne fut l'objet d'études, de recherches aussi longues, sérieuses et concluantes par des hommes dont la compétence ne peut être mise en doute que ne le fut l'hypothèse fluor-carie dentaire. Scientifiquement parlant, la fluoration est la mesure d'hygiène la plus rationnelle et la moins discutable de toutes celles qui furent adoptées dans le passé. Elle est efficace, de toute sécurité, économique, facile d'application; ne présente aucun inconvénient ou contre-indication. Partout où la fluoration fut appliquée, l'incidence de la carie chez les enfants qui en ont bénéficié accuse une réduction de 50 à 60%. Là où la fluoration ne peut être effectuée, le dentiste a à sa disposition l'application topique des sels de fluor, que ce soit le fluorure de sodium ou le fluorure d'étain, avec l'assurance d'une réduction de l'incidence d'au moins 40%.

Il y aurait lieu de faire les quelques recommandations suivantes:

(a) qu'au niveau de la province et des municipalités, les administrations publiques, avec la collaboration des agences volontaires, associations professionnelles dentaire, médicale, etc., fassent un commun effort pour promouvoir la fluoration et l'application topique des fluorures sur le plan communautaire;

(b) qu'une aide financière soit accordée à certaines municipalités afin de les aider à financer l'initiation d'un programme de fluoration;

(c) il y aurait peut-être lieu de modifier la loi dentaire afin de permettre aux assistantes dentaires de faire les applica-

tions topiques de fluorure, sous la surveillance d'un dentiste.

Nous pouvons toutefois espérer, à la suite des recommandations récentes du comité royal d'enquête en Ontario sur la fluoration ainsi que sur les droits des municipalités de l'appliquer, que nos propres administrations gouvernementales y feront écho en recommandant son application à toutes les municipalités jouissant d'un approvisionnement d'eau communale. Mais encore là, il faut un réveil et une orientation de l'opinion publique.

Actuellement, l'état statique où nous en sommes avec la fluoration résulte de l'attitude de deux groupes bien distincts: l'un, une minorité anti-fluoracionniste, tapageuse, mais bien organisée; l'autre, une majorité en faveur de la fluoration, mais apathique, mal organisée et sans directive. Les tristes conséquences d'un tel état de choses sont que les milliers d'enfants qui naissent chaque jour ne peuvent échapper aux complications parfois douloureuses d'une denture inutilement hypothéquée. Il y a là, il me semble, de quoi faire réfléchir!

Le rapport de la Commission d'enquête sur la dentisterie aux Etats-Unis reconnaît l'importance de *l'intégration complète de l'hygiène dentaire dans les services de santé publique gouvernementaux*, que ce soit au niveau fédéral, de l'Etat, ou au niveau communautaire. Malheureusement, commente-t-il, trop souvent l'importance des services dentaires est considérée comme une quantité négligeable et ceux-là sont relégués au second plan, alors que les autres services jouent le rôle de vedette.

En matière d'hygiène publique, nous sommes bien en retard. Le nombre de dentistes spécialisés dans cette science est inadéquat. Il ne faut pas oublier que les organismes d'hygiène publique gouvernementaux ou autres ne sont efficaces que s'ils sont sous une administration compétente, au courant des techniques administratives telles que l'utilisation des statistiques, des méthodes épidémiologiques, et des principes d'orientation d'un pro-

gramme d'éducation et de dentisterie préventive. Le dentiste spécialisé en hygiène publique doit avoir des connaissances additionnelles tout aussi vastes et précises dans la spécialité qu'il exerce que l'orthodontiste ou le chirurgien buccal dans la sienne. Il doit savoir comment utiliser les services des sociologues, des éducateurs, des ingénieurs en hydraulique, aussi bien que de ceux qui sont directement intéressés à la dentisterie préventive, tels que les hygiénistes et les assistants dentaires.

Actuellement, la majorité de ceux qui sont dans des positions de commande de programmes organisés de services pour soins dentaires, tels que les hôpitaux, nos facultés, aussi bien que les services d'organismes volontaires ou gouvernementaux d'hygiène dentaire publique, s'y trouve tout à fait accidentellement, par un concours de circonstances imprévisibles, sans avoir au préalable l'entraînement spécialisé nécessaire et doivent compter uniquement sur leur propre initiative et leur habileté naturelle dans un travail dont les exigences dépassent bien souvent les limites de leurs capacités.

Pour corriger cet état de choses, il faudrait faciliter une plus étroite collaboration entre les écoles d'hygiène publique et les facultés dentaires, en vue de la spécialisation en dentisterie administrative.

A cette fin et en marge des recommandations de la commission d'enquête, nous suggérons:

1. Que le curriculum actuel dans les écoles d'hygiène publique soit plus élaboré, surtout en ce qui concerne l'enseignement en dentisterie préventive et administrative, en regard de l'éducation, la recherche, l'organisation des services dentaires, au niveau du praticien aussi bien que des activités traditionnelles des programmes d'hygiène dentaire publique;

2. Que la profession reconnaisse l'importance des organismes d'hygiène dentaire publique, ainsi que la préparation nécessaire à ceux qui se destinent à cette spécialisation; qu'elle donne au moins son support moral et son encouragement à

ceux qui se dirigent vers ce vaste champ d'action.

3. Que tous les organismes d'hygiène dentaire publique, en collaboration avec les sociétés et associations dentaires, les facultés dentaires, les écoles d'hygiène publique orientent leurs efforts de plus en plus vers l'importance de l'éducation en hygiène générale et de toutes les disciplines connexes.

L'importance de la santé dentaire comme facteur de santé générale doit attirer une attention spéciale de la part des autorités provinciales, ainsi qu'au niveau des municipalités. Exception faite de Montréal, qui bénéficie d'un service d'hygiène dentaire autonome, progressif dans les cadres de son service de santé, aucune autre municipalité, en autant que je sache, n'est organisée pour donner adéquatement même les services essentiels aux médicalement indigents. Dans de telles circonstances, comment pouvons-nous être surpris de l'attitude négative de la population sur l'importance de la prévention et de la correction. Faisant écho aux recommandations de la commission d'enquête, nous suggérons la réorganisation et l'extension des cadres de la section d'hygiène dentaire provinciale, afin que toute la population médicalement indigente puisse en bénéficier; l'intégration d'un personnel qualifié, l'organisation d'un programme complet d'éducation dentaire scolaire, de prévention et de correction, sous l'administration autonome et responsable d'un dentiste dûment qualifié et spécialisé en hygiène dentaire publique.

Que toutes les municipalités dont la population est de 10,000 ou plus, bénéficient, si nécessaire, d'un octroi qui facilitera la mise en application d'un pro-

gramme de prévention et de correction pour les préscolaires et les enfants d'âge scolaire, jusqu'à l'âge de 9 ans inclusive-ment, médicalement indigents.

A la suite de toutes ces recommandations, il va de soi que la profession doit continuer à utiliser ses connaissances et tous les moyens dont elle dispose pour orienter le patient vers la compréhension de l'importance d'une denture saine. L'importance des relations humaines au niveau du patient peut être un facteur déterminant de l'attitude qu'il prendra en regard de l'importance des traitements qu'il aura reçus. Bien souvent ce sera la différence entre le bon et le mauvais patient.

N'oublions pas que l'éducation, la prévention et la correction sont des mesures qui s'étendent bien au delà des programmes d'hygiène publique et qu'elles doivent orienter chacune de nos activités professionnelles.

Notre profession est jeune, mais elle a atteint rapidement, par des efforts incessants, les trois caractéristiques d'une profession adulte: éducation et formation supérieures; responsabilités réelles comme serviteur public; droits d'une administration responsable et autonome. Voilà l'héritage qu'il nous appartient à tous de faire fructifier.

SUMMARY: DENTAL HEALTH

Dental decay represents a problem that traditional means can not resolve alone. Four measures are advocated: (1) exhaustive and persistent dental health education of the whole population; (2) active endorsement of fluoridation; (3) training of a larger number of dentists specialized in public hygiene; and (4) active recruitment of dental personnel.

Nouvel appareil d'immobilisation cranio-faciale en chirurgie maxillo-faciale

PAR ANDRÉ CHAREST, B.A., D.D.S., Québec, P.Québec

Lorsqu'il s'agit d'immobilisation des os de la face, le chirurgien qui a une certaine expérience dans ce genre de chirurgie reconnaît vite que les ostéo-synthèses ou les extensions au moyen de casque de plâtre (head cap) ne sont pas toujours à la hauteur de la situation et que, dans la majorité des fractures complexes de la face, les appareils de traction et d'immobilisation externes sont nécessaires.

Ce genre d'appareil attaché directement à la boîte crânienne a rarement été décrit dans la littérature. Lorsqu'on en a mentionné la possibilité, c'était toujours en dernier ressort, parce qu'il était trop compliqué à ajuster, inefficace, ou qu'il a pu causer certains accidents intra-crâniens.

Etant donné l'incidence croissante des traumatismes et la nécessité de les traiter, j'ai fabriqué et mis au point un appareil que vous me permettrez maintenant de vous décrire après l'avoir utilisé chez plusieurs patients.

Après deux années d'utilisation et après modifications, je constate maintenant qu'il me donne les avantages suivants:

1. il s'installe très adéquatement en quelques minutes seulement;
2. il permet d'avoir dans toutes les directions une traction régulière et considérable de tous les os de la face;
3. il permet l'immobilisation rigide et constante;
4. il peut être employé même avec des fractures des os du crâne ou des lésions du cuir chevelu;

5. il ne cause pas de nécrose comme le plâtre peut le faire, s'il est trop serré;

6. il est plus facile à tolérer et plus léger que le plâtre;

7. il ne bouge pas, comme le plâtre, chez les patients alités;

8. il peut servir en même temps pour traction cervicale si nécessaire;

9. jamais une ostéomyélite du crâne n'est survenue à la suite de l'installation de cet appareil;

10. jamais l'appareil ne s'est défait ou a été enlevé par le patient lui-même.

DESCRIPTION

Cet appareil métallique qui prend appui horizontalement au niveau de la table externe des os du crâne ressemble à une fourche à deux dents, à un forceps ou encore à une pince à glace à quatre crampons.

Il a l'aspect d'une fourche par le fait que les deux dents encerclent partiellement le crâne et que le manche représente l'extension située à la partie antérieure. Il ressemble à un forceps ou une pince par le fait que la forme de ses branches s'adapte à la morphologie de la boîte crânienne et que celles-ci peuvent s'écarter ou se rapprocher au moyen d'un pivot situé à la partie antérieure.

Cet appareil est maintenu à la périphérie de l'os frontal et des deux pariétaux par l'intermédiaire de quatre points d'ancrage attachés transversalement aux deux branches et prenant appui à même le tissu osseux après avoir pénétré le cuir chevelu.

Ces points d'ancrage, tels qu'illustrés sur les deux premières photos (4), ont la

forme d'une tige vissée à une attache métallique de forme rectangulaire et fenêtrée au centre. Cette attache peut être déplacée et immobilisée à différents endroits des branches de la fourche en prévision des altérations traumatiques des tissus mous ou des fractures de certaines régions du crâne.

La tige ou boulon d'ancrage a des filets aux deux tiers de l'extrémité externe, tandis que le tiers interne est cylindrique

et mousse. La pointe est pyramidale sur 0,5 cm et est accompagnée à sa base d'un épaulement servant de garde et d'arrêt (2).

Pour donner plus de rigidité et plus stabilité aux branches ainsi qu'aux points d'ancrage, un levier de serrage semi-circulaire passant au-dessus du crâne les réunit et les maintient parfaitement immobiles dans la position choisie (5).

A cet appareil de base qui est en lui-

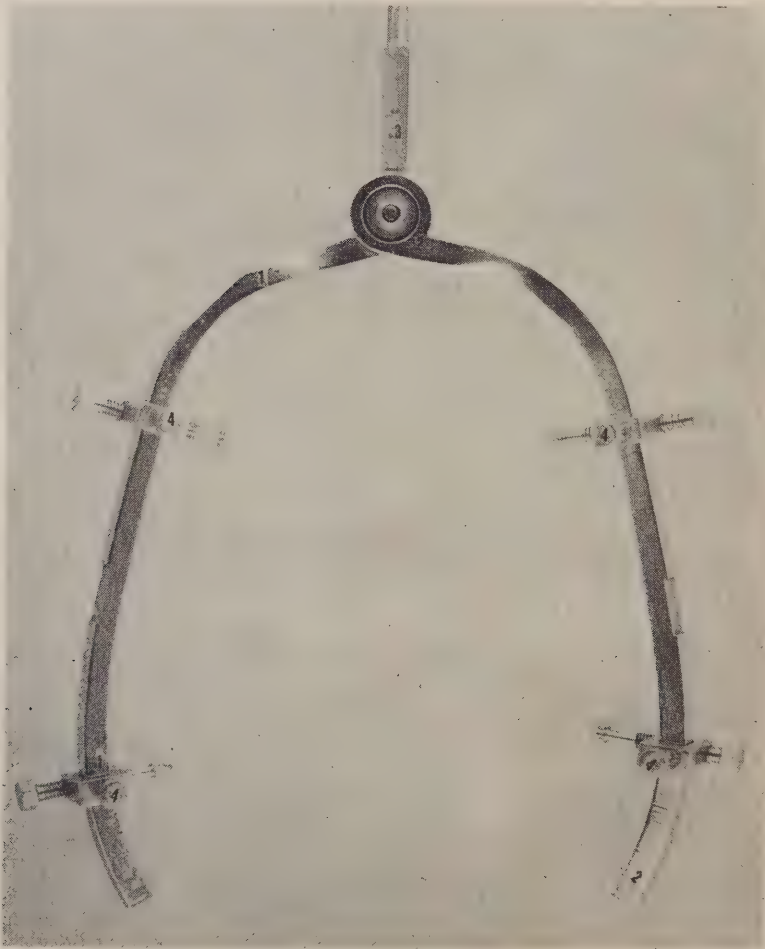


FIGURE No 1

même très simple s'ajoutent des accessoires destinés à différentes fonctions. Sur le deuxième cliché, vous pouvez observer à la partie supérieure un arc de contour facial adapté à la base de l'extension antérieure sur lequel peuvent s'installer différentes tiges destinées à la traction ou au maintien des fragments osseux.

Une vue d'en haut de l'appareil installé

sur un crâne permet d'observer avec plus de facilité le fonctionnement du levier de serrage (5) ainsi que le pivot au joint (2) servant à maintenir l'extension antérieure avec les branches de la pince. On voit aussi l'arc facial avec ses attaches (12) pouvant se déplacer d'un côté à l'autre de la face.

Une projection latérale permet d'ob-

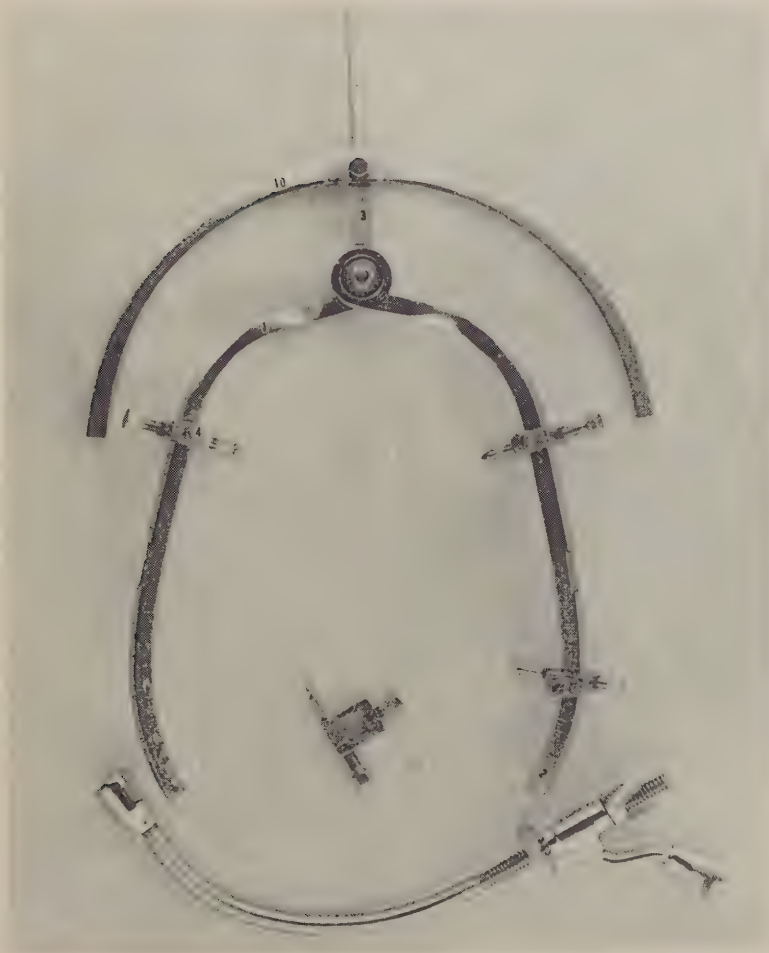


FIGURE No 2

server les autres accessoires adaptés à l'appareil de base. Tous ces appareils sont similaires à d'autres décrits et employés par différents auteurs, mais ils s'avèrent plus efficaces lorsqu'ils sont montés sur cette pince parce qu'ils sont plus rigides et plus stables.

Le seul inconvénient que l'on rencontre est le rasage des cheveux au niveau de l'insertion des tiges et, ceci, pour fins

aseptiques. Une fois cette asepsie faite aux endroits désirés, les attaches sont ajustées en place. La pince est placée sur le crâne et resserrée avec les mains jusqu'à ce que les points marquent la peau. Une incision est faite aux quatre endroits et la pince est remise en place avec le levier de serrage qui la maintient bloquée. L'écrou du pivot antérieur est resserré avec une clef anglaise hexagonale



FIGURE No 3

d'un quart de pouce qui sert à tous les écrous de l'appareil. Chaque tige est vissée l'une après l'autre, en mouvement de vrille, afin de permettre à la pointe de la tige de se frayer un chemin dans la table externe sans toutefois qu'il soit nécessaire de la transpercer. Il suffit d'avoir une certaine rétention suffisante pour empêcher l'appareil de glisser en direction supérieure.

L'emploi de cet appareil m'a été d'un grand secours, principalement dans les cas de traumatismes non récents où il s'est avéré efficace avec un grand pouvoir de traction et une grande stabilité, sans mentionner sa facilité d'installation et sa souplesse d'ajustement. Après deux années d'expérience avec des patients dont l'âge

variait de 4 à 80 ans et devant les résultats obtenus, il m'est permis de conclure que l'appareil que j'ai eu l'occasion de fabriquer et le plaisir de vous décrire peut s'ajouter avec avantage à l'armementorium de la chirurgie maxillo-faciale.

SUMMARY

A new craniofacial immobilization apparatus is introduced to the reader. This is based on the principle of a pericranial arch attached to the cranial paries with four threaded rods. Adaptable to any situation, the apparatus has for two years given the author excellent results without mishap.

565 rue St-Jean

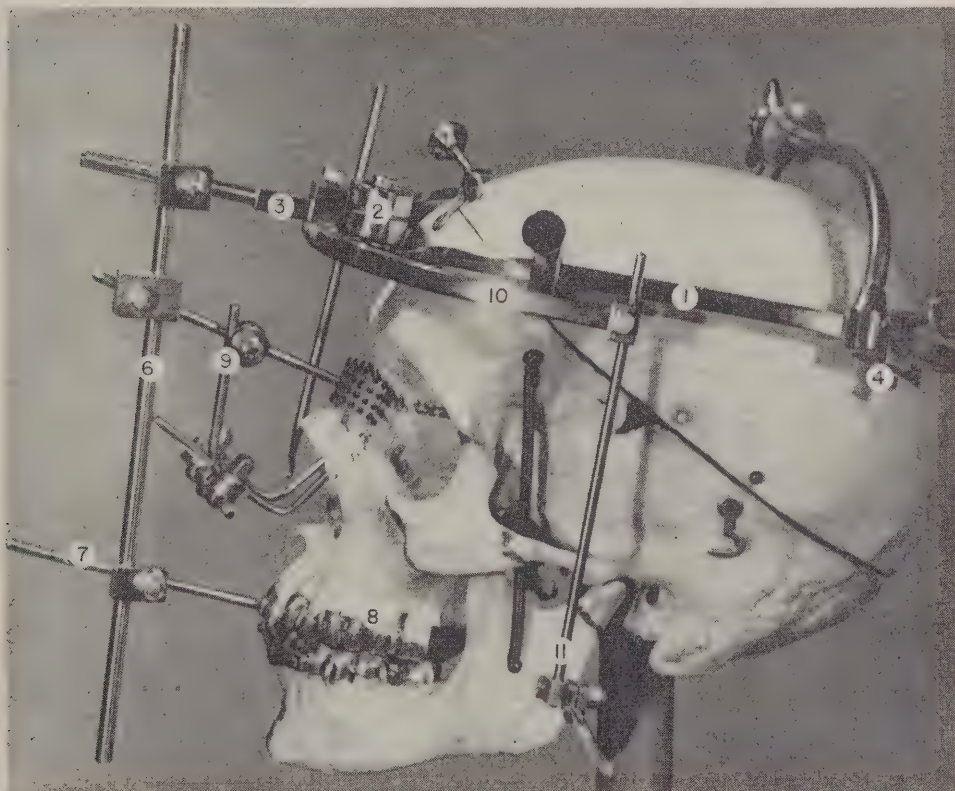


FIGURE No 4

CONGRES DE L'ASSOCIATION DENTAIRE CANADIENNE

et de la Société dentaire de l'ouest du Canada

Saskatoon, Saskatchewan

les 4, 5, 6, et 7 juin 1961



Hôpital de l'Université de Saskatchewan, Saskatoon, Saskatchewan

CONFÉRENCES

Dr G. F. McGee	Université de Californie	Prothèse
Dr A. Elfenbaum	Université Northwestern	Diagnostic
Dr L. O. Bishop	College of Physicians and Surgeons, San Francisco	Chirurgie buccale
Dr Wendell Wylie	Université de Californie	Conférence du Mémorial Grieve

CLINIQUES DE TABLE

Université Dalhousie	"Techniques d'orthodontie"
Université McGill	"Endodontie" "Emploi des substances plastiques dans la prothèse faciale"
Université de Montréal	"Fraisage à haute vitesse; utilisation de la digue; réaction des tissus de la dent au fraisage à haute vitesse"
Université de Toronto	"Périodontie" "Orthodontie"

Université de Manitoba	"Obturations en or adhésif"
	"Ancrages temporaires, fixes et amovibles"
	"Placage en argent"
	"Étude sur le lambeau chirurgical au cours d'une extraction"
	"Principes de la préparation des piles pour les couronnes et des ponts"
	"Progrès de l'endodontie"
	"L'occlusion des prothèses" (clinique échelonnée)
Université d'Alberta	"Prothèse"
	"Amalgame"
	"Radiographie"
Ministère de la Défense nationale	"Rôle des officiers dentaires pour prendre soin des blessés au cours d'une catastrophe nationale."
Le Kelvin Dental Group	"Ancrage de la mandibule sous le périoste".
Dr S. Norquay	"Utilisation des pivots en couronnes et ponts".
Dr G. W. Street	"Notions d'orthodontie préventive"
Dr M. J. Lipkind	"Endodontie"
Dr J. J. Schachter	"Orthodontie"
Dr J. T. Cooke	"Quelques problèmes en couronnes et ponts"
Dr R. Morrison	"Chirurgie buccale"
Dr P. Luxford	"Chirurgie buccale"
Dr J. A. Ludwig	"Tumeurs et kystes du maxillaire et de la mandibule"
Dr S. Borden	"Médication périodontique"
Dr B. L. Kuzyk	"Pédodontie"

INSCRIPTION

Dr Arthur Singer	Saskatoon, du 4 au 7 juin 1961
414 Edifice Canada	Honoraires d'inscription
Saskatoon, Sask.	seul \$50.00
	épouse gratis
	Ces honoraires comprennent le banquet du président et toutes les autres réceptions officielles

nom	Hôtel Besborough	seul lits jumeaux double	7.50-13.50
adresse	Hôtel King George	seul " " "	6.50-12.00
ville prov.	Hôtel Senator	seul "	6.50- 8.50
nom de l'épouse			
golf: oui non	Motel Parktown	seul lits jumeaux	8.00-11.00

Les demandes pour des chambres doivent être accompagnées des honoraires d'inscription.

La réunion du
CONSEIL DES GOUVERNEURS
de
L'ASSOCIATION DENTAIRE CANADIENNE
du 31 mai au 31 juin 1961
à l'Hôtel Bessborough, Saskatoon, Saskatchewan



Photographie à titre gracieux des Chemins de Fer Nationaux du Canada

L'HOTEL BESSBOROUGH, SASKATOON

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The Need for Dental Services in Rural Areas*

H. K. BROWN, D.D.S., D.D.P.H.,** Ottawa, Ontario

The task of providing dental services in rural areas is not a new one, nor is it peculiar to Alberta alone. All ten provinces are concerned with it, have tried and are trying to meet it by one means or another which they regard as best suited to their particular circumstances.

Some of the methods presently used are of considerable interest, notably those in Ontario and in British Columbia. How-

ever, I think it is fair to say that nowhere has there been developed a fully adequate and generally satisfactory method of meeting the situation. Apparently this is a subject about which dentists can become as much confused as the farmers and the politicians. I have had an opportunity to become confused in all three capacities. This is probably the reason for my having been invited to discuss the subject here.

The usual definition of a "rural" dental practice is one in which well over half the practice is dependent upon a farm population, with perhaps a number of

*Presented at the Biennial Refresher Course, Faculty of Dentistry, University of Alberta, September 8-9, 1960.

**Dental Consultant, Department of National Health and Welfare.

villages and/or hamlets included. The practice may be a full-time or a part-time one, depending upon the size of the local population and its utilization of dental services.

The local utilization of dental services can be affected by a broad variety of considerations. Among these might be mentioned the local status of dental health education, the local use of preventive measures, the age distribution of the population, the economic status of the community, the local availability of other health services, including hospital services, the presence of other types of community service, and of recreation and amusement facilities, the proximity of large urban centres and the nature of transportation facilities. These are all significant variables. There may be others.

These factors can and should be made the basis for determining in a systematic way what kind of a dental care program could be effectively and economically provided for any interested rural community. Most major business concerns have long used tested survey methods to determine the advisability of entering new areas and opening new branches. Recently the American Medical Association has adopted this principle to assist in extending medical services into new areas to the mutual satisfaction of the profession and the public. The time has come for the dental profession to do equally systematic planning. The survey criteria for our purposes must, of course, be different but the same general principles would apply. Hitherto, any services performed in this area have been rendered by the dental supply companies — and we owe them a debt of gratitude. They can still give valuable help to any survey agency concerned with the use of more extensive and systematic procedures for appraising the needs of a community for locally provided dental services.

There is a well tested and fairly reliable way to determine whether or not the demand from a community to have dental services is a responsible and collective

one. It has been used in two provinces for several years. If a community will assume the responsibility to pay in whole or in part for the dental services it desires, and will take any other necessary and reasonable collective action to facilitate the rendering of such services by a dentist, it can usually be assumed that a community demand exists and that action should be taken to meet it. A competent survey agency should be able to decide how the demand could best be met. Perhaps the circumstances may indicate the need for a full-time resident dentist, or possibly the demand may be met by periodic visits, leading ultimately to full-time resident practice. The continuing stability and expansion of dental services to a community depends upon local interest, and it in turn depends largely upon financial and other kinds of local participation in the community dental health program, particularly in those aspects of it which affect children. A continuing voluntary committee on dental care of children is an excellent indication of a significant collective interest.

The demand for community dental services arises nearly always from the dental care needs of children. In most provinces both federal and provincial grants-in-aid are available to assist communities wishing to undertake child dental care programs. It can be safely anticipated that such grants will become more readily available. This will lead to a further demand for dental services by a large number of rural and small urban communities not now having grant-aided dental programs. Therefore the planning to meet a community demand for dental care by setting up local dental services should revolve about its child population. The adult fraction of the population, besides being outside any local grant-aided program, is much more mobile than children. Good highways and the predictability of dental care needs often operate to prevent the establishment of rural practices even where adequate populations exist. Those of us who conducted rural practices dur-

ing the depression of the "thirties" became very much aware of this and also of what the economists call an "elastic demand" as it relates to dental care.

Whether a survey indicates a need for a dental service on a periodic visiting basis or as a full-time resident practice, the office accommodation and equipment and their standardization are important considerations. Neither the dentist nor the community which accepts makeshift dental facilities will assist in bringing dental care into proper perspective among the health services. It has been shown from long experience in one province (Ontario) that where a community owns or has a share in its dental facilities it takes good care of them and maintains an interest in dental care. One makeshift used in too many instances is the mobile clinic. It is largely a hangover from World War II, cramped, awkward, cumbersome and, for the most part, a symbol of dental program instability and inefficiency. There are good types of transportable equipment which for most purposes is far superior to mobile clinics, provided good clinic space is available in which to use such equipment.

The most efficient and satisfactory way yet devised to provide dental services for any community, urban or rural, is through a resident dentist who becomes in every respect an integral part of the community. There are many communities, of course, where at least the dental care of children on a periodic visiting basis is indicated. The visiting dentist, as a rule, never enjoys the experience of feeling or being regarded as a member of the community. He is tolerated as something in the nature of a necessary nuisance, unless he is a particularly lovable character.

The same conditions too often prevail in relation to a dentist who is "serving his time" — to use the penal expression — to fulfill bursary or other conditions. He has been brought into the community by economic or other pressures and intends to get out as soon as he can. The people know it and react accordingly. He will

get most of the child practice. Adults who have established a connection elsewhere and are sufficiently mobile to continue it will do so in preference to establishing a transient relationship in their own community.

Therefore, unless a community can be served on a full-time resident basis by a dentist who chooses it because he likes the situation, it is probably better to have it served on a periodic visiting basis, with the aim of providing full-time resident services when the circumstances become propitious.

Care should be taken not to be too hasty about providing full-time resident dental service, even in communities whose population is apparently large enough to provide a full-time practice. The view is often expressed that if a community can support two full-time busy medical practices, it can support one dental practice. This is an over-simplification. For one thing, the prospects may depend upon the outlook of the local physicians — usually this is good but sometimes it is not. In addition, the fundamental psychological fact must be borne in mind that every community fears to be without or even short of medical care and even fears (but to a lesser degree) to be without hospital services. People think, and rightly so, that their very lives may be depend upon the availability of these services. This is the main reason for the popularity of public medical and hospital care programs. People do not fear to be without dental care; at best, they regard its lack as an inconvenience.

A program of public education is indicated in all rural communities as a prelude to establishing a dental practice. Too many members of the public harbour serious misconceptions concerning the practice of dentistry. The belief is too common that better dental care can be obtained in large urban centres.

This was brought home to me many years ago, when as a young dentist I practised in a rural district of Alberta. One particular incident, I think, illustrates the widespread nature of this mis-

conception. One evening—rural dentists without some of kind of “escape hatch” are almost sure to perform evening services—I had just treated a local farmer and must have impressed him very favourably. As he got out of the chair he turned to me and said, “Well, Doc, they are saying that you will be leaving us soon.” I was surprised and asked him how “they” had got this idea. He replied, “Well, they are all saying that you are getting just about good enough to be in the city.” I am not aware that any systematic effort has been made, in any province, to correct that widespread erroneous impression. In fact, inadvertently we do many things which foster it.

The general principle of the use of bursaries to assist dental students is a good one, if wisely applied. It can help many very competent students who would otherwise be unable to complete the course. However, too frequently the unnecessarily restrictive conditions attached to their acceptance serves to detract from their value as well as their popularity. If bursaries are to be useful in attracting students to dentistry, the conditions relating to such matters as practice locations should be treated with caution.

The need for dental services in rural areas is only one aspect of the overall need for such services. There is little doubt that within an adequate supply of new graduates there would be found many who would have a preference for rural practice.

However, the question of what constitutes an adequate supply of new graduates is closely bound up with the subject of dental auxiliaries and the related essential changes in undergraduate teaching and in practice management. In this connection the dental profession in Alberta appears to be in the forefront of impending and challenging changes. In closing may I say this little prayer for them and for those associated with them in bringing about the changes which appear to be imminent. “May they have the courage to change those things which ought to be changed; the serenity to accept those

things which cannot be changed — and the wisdom to distinguish the one from the other, and to plan together with the welfare of the public ever in mind.”

RÉSUMÉ

Les services dentaires, au niveau local, sont utilisés en proportion des facteurs suivants: degré d'éducation en hygiène dentaire, utilisation des mesures de prévention, échelle d'âge de la population, statut économique de l'agglomération, disponibilité des autres services de santé, existence d'autres genres de services communautaires, organisation des loisirs et des amusements, la distance des grands centres et les facilités de transport. On peut se rendre compte si la demande d'une agglomération pour des services dentaires est générale et sérieuse. Une région montre qu'elle désire sérieusement des services dentaires, quand elle est disposée à payer en tout ou en partie des services dentaires et quand elle facilite collectivement le travail du dentiste en prenant sérieusement les mesures qui s'imposent.

La demande d'une région pour des services dentaires prend presque toujours naissance au niveau des soins à donner aux enfants. La plupart des provinces peut s'approprier des octrois fédéraux et provinciaux afin d'entreprendre des programmes de traitements dentaires pour les enfants. Les adultes, n'étant pas éligibles pour ces octrois, sont beaucoup moins stables: les dentistes qui exercent dans des secteurs ruraux connaissent bien cette demande “élastique” de la part des adultes. L'installation d'un cabinet, son équipement, son fonctionnement seraient des considérations.

Il faudrait songer sérieusement à l'installation d'un cabinet, à son équipement et à son fonctionnement, selon qu'une enquête révèle que les besoins d'une région requièrent les services d'un dentiste à plein-temps ou à temps partiel. Une municipalité qui possède ou qui aide à l'installation d'un cabinet y prend grand

soin et s'intéresse davantage aux traitements dentaires. Un dentiste à plein temps qui s'intègre dans l'agglomération est encore la meilleure façon de prodiguer des services dentaires. Si la chose n'est pas possible, il vaut mieux que cette région soit desservie périodiquement par un dentiste visiteur que par un autre qui s'y fixerait temporairement pour remplir certaines conditions d'un contrat consenti pour des avantages pécuniaires ou autres considérations. Le principe des

bourses pour des étudiants est bon, mais il faut fixer avec beaucoup de prudence la question des endroits où ces nouveaux dentistes devront exercer. Il faut préparer l'esprit de la population avant d'établir un cabinet dans une région rurale. Il faut combattre cette idée que seule une grande ville peut se payer le luxe de bons traitements dentaires.

*Department of National Health
and Welfare.*

Fifteen Years of Group Practice in a Rural Area*

J. I. WYATT, D.D.S., Medicine Hat, Alberta

Dr. H. K. Brown has defined a rural practice as one in which approximately fifty per cent of the patients live in rural areas or small towns in the shopping area. On the basis of this definition we have a rural practice in Medicine Hat and our group is designed to meet conditions which are quite different from those in an urban practice. Our patients come many miles from areas which have no dentists and the services they require are those of the general practitioners. Our group consists of general practitioners, all of whom provide this type of service.

The men in our office prefer group practice as we have found, from past experience, that we can provide a better service to the patient and that there are many advantages both to the dentist and to the public. It is of great importance that the benefits to the patient should be given consideration equal to the advantages ac-

cruing to the dentists when considering any type of dental practice.

A successful group practice provides professional association based on mutual agreement and its success depends on compatibility, fairness and the willingness of the members to give and take for the benefit of all. Points of difference and changes in policy should be discussed and settled at regular meetings. In this discussion of our group experience the author will present the following aspects:

1. Development of our group,
2. Office accommodation,
3. Dental staff,
4. Auxiliary staff,
5. Dentist-patient relationship,
6. Advantages and disadvantages specific to our experience,
7. Monetary arrangements, and
8. The future of group practice.

Our group began as an association prior to World War II. Three of us shared office accommodation but each one operated a separate private practice. From this

*Presented at the Biennial Refresher Course, Faculty of Dentistry, University of Alberta, September 8-9, 1960.

physical arrangement and our experience in this association, we decided to form a partnership when we returned to practice after World War II. There have had to be many changes in our operation since then to cope with an expanding population, growing practices, changes in personnel and development of new techniques in dental practice. We have varied our partnership terms and we have employed dentists by arrangements varying from part-time to full-time and from a straight salary to a straight commission basis. We have undergone personnel changes through retirement, illness, death and withdrawal or separation. Solutions have been found to cover all these changes.

Our ground floor office is located in the city centre and is adjacent to the bus terminal. The building provides the following facilities:

1. Eight operating rooms with x-ray machines for each dentist.
2. Two waiting rooms.
3. Business office.
4. Dark room.
5. Supply room and storage space.
6. Staff dressing room.
7. Laboratory space for each two offices with additional laboratory equipment in the floor below.

Our staff includes:

1. Four dentists, all general practitioners.
2. One chairside assistant for each dentist whose duties include assisting at the chairside, making appointments, maintaining patients' charts and developing radiographs, which the dentist has taken.
3. A receptionist-bookkeeper who is our office manager and whose duties include general bookkeeping, maintenance of records and operation costs, issuing of statements, collection of accounts, staff records, ordering of supplies, paying of accounts and issuing cheques, paying salaries, and co-ordination of auxiliary personnel.

As each dentist is a general practitioner, he is encouraged to attend short courses

in special branches of dentistry. Each dentist retains his own identity and the patient makes his appointment with the dentist of his choice. In our association we do a continual consultation which gives the patient a better service. We refer cases where indicated. There is no senior dentist or director, and therefore patient-dentist relationship is on the normal individual basis. Each dentist works to full capacity with everyone operating in the best interest of the group. This factor is of prime importance in a group such as ours.

Each dentist trains his own assistant to work with him at the chairside. This is the main aspect of the assistant's duties but there may be times when she is free to answer the central telephone or to develop radiographs for any other dentist in the group. In order to prevent friction between the assistants and especially to prevent one assistant from supervising another, a regular time table is arranged for common duties such as changing of developing solutions and extinguishing lights. The assistant and the receptionist are trained to relieve the dentist of many minor problems which might interfere with his main task of providing the best possible service to the patients.

The dentists in the group are responsible for administration of the practice. One supervises the business office. Another partner is responsible for ordering supplies and supervising the stock. Because we have a rural location, it is necessary to have large inventories of supplies, especially teeth, on hand. The building maintenance and repairs are allotted to a third member. Although there may be a great benefit for a group to own its own building, we are renting our accommodations at present.

Because we have a large rural practice, we have found it advisable to maintain office hours six days of the week. Two dentists are off duty on Saturdays and two are off duty on Mondays. This plan is flexible and may be changed for personal reasons or to meet patient requirements.

Each partner in the group has one month vacation each year and time off within reason for special dental society meetings in Calgary and also for short refresher courses or seminars at dental schools. A dentist employed on a commission basis may take whatever time he wishes for vacation. Vacation periods are staggered in order that service to patients is never disrupted. It may be of interest to note that local dentists, outside our group refer their patients to our office for emergency care when they are absent from their offices.

Our auxiliary staff receives two weeks vacation with pay as well as sick leave with pay. As a fringe benefit to our staff all personnel are provided with prepaid medical care insurance through (Alberta) Medical Services Inc., the premiums being paid by the practice.

ADVANTAGE OF GROUP PRACTICE

The advantages of group practice that our group has found very desirable both to patients as well as the dentist are numerous:

(a) the dentist can take his needed vacation with the assurance that his patients will receive any necessary care during his absence. His office continues to function without financial loss or added expense. Collections continue, statements are mailed and appointments are made in the normal way. Should illness occur, worry is reduced to a minimum as the dentist knows that his part of the practice is being cared for. In our particular group, a dentist who is ill still receives his full share of income from the practice up to a mutually agreed cut-off date without deduction for current office expenses. We have found that this situation reduces a great deal of stress to the convalescent. Each member of our group carries individual protection under the Alberta Dental Association Health Insurance Plan.

(b) Group practice permits and encourages consultations which provide the pa-

tient with a much better service. As two opinions are better than one, service is improved and the case discussion serves as a continual refresher to each dentist.

(c) The exchange of ideas from discussion of courses and conventions attended as well as articles studied, provides a simple but effective continuing education to all members of our group.

(d) There is a companionship which is absent in a single unit practice. Not only is this refreshing and pleasant; it prevents one from sitting in an ivory tower surrounded by grateful patients and working assistants. It is a pleasant experience to know that you have partners at hand if you wish aid or advice in dentistry or on any other problem.

(e) There is some saving in cost of supplies but this is somewhat overrated. However, in a rural practice such as ours, with no local dental supply house, we can keep a good stock of supplies on hand and by sharing costs, general overhead is reduced somewhat.

(f) Because of the increased number of dentists in a group practice, more patients are attracted to the office and they develop the habit of attending there in spite of personnel changes. Many patients in our practice will make an appointment with any of the dentists depending on the suitability of the appointment time.

(g) In a group practice a new graduate will reach his maximum output much more quickly than in individual practice because of patients referred. With the shortage of dentists, this early maximum employment of the new graduate benefits the public.

(h) Auxiliary staff can be more economically employed by a group to provide better administration, better patient and public relations and, through increased production, more service to the patient without increased cost.

DISADVANTAGES OF GROUP PRACTICE

(a) Individualism must, at times, be submerged for the good of the group. Be-

cause of one incident a patient may hold an ill-feeling against all members of the group.

(b) A production line attitude can develop and should be avoided at all costs.

(c) If a partner or associate should become dissatisfied or disgruntled, he can cause ill-feeling prior to or after his withdrawal. In our group there are no restrictive clauses; this eliminates rancour if a member leaves.

(d) If a group gets too large the problem of keeping all dentists at full working capacity arises in order to meet salary and overhead costs. Any drop in patient load affects income if the drop is large the whole practice is disrupted.

FINANCIAL ARRANGEMENTS

1. *Group members*

We have tried a number of methods for dividing the income of the group and have now settled on a method whereby senior partners of the group receive equal income which is higher than that of the junior members. On a long-term basis we have found very little difference in the work output by the senior members. In the event that a senior partner wishes to withdraw he may do so on a prearranged basis. He may retire or he may continue practice on a reduced or part-time scale on a commission basis. When he is not working, the space is available for use by others.

2. *Associate members*

A number of dentists have been employed as associate members on a percentage basis. At the present time our one associate is engaged on a straight percentage basis. The group provides office and equipment, and, if necessary, an assistant. In addition all office overhead is provided. This associate receives a monthly cheque based on treatment services provided and fees collected. When an associate enters partnership, his compensation is based on the ratio of his income as an associate to the income of the partners for the preceding year. This is revised yearly as his

productivity increases until he receives a share equal to the senior partners.

EQUIPMENT

Our group can provide equipment but our policy is that each dentist should provide his own. This method permits each dentist to select the type of equipment he chooses to use at the price he wishes to pay. Friction is thus eliminated which could arise if one dentist demanded that the group provide him with a more expensive office than was considered necessary. Ownership of equipment is one of the first requisites for entry into our partnership.

THE FUTURE FOR GROUP PRACTICE

The author believes that group practice will become more common in the future. Increased public health education will bring increased demand for dental services and dentists will be called upon to perform more services of a preventive nature. The whole concept of dentistry as we know it will change; the dentist will become more of a consultant and use more auxiliary personnel to take care of some aspects of the service which will be carried out under his supervision.

The demand for specialist services will increase. It might be possible in the future for one dentist in the group to limit his services to diagnosis.

In the light of these changing trends office layout will be changed. There will be more operating rooms per dentist and these will be grouped around a central sterilizing area. Each dentist will have several chairside assistants and office equipment will be of a simple design and interchangeable between offices. There will be a central reception area but recovery rooms and smaller waiting rooms will be adjacent to each cluster of operating rooms. In the larger group, special rooms will be available for general anaesthesia cases.

Combined group practice will prove to

be the most effective method of combining dental services with efficiency and economy.

CONCLUSION

Experience has shown that group practice can be successful in a rural area.

A rural group practice which started fifteen years ago in Medicine Hat, Alberta, has been described.

Present developments in dental office practice will result in an increase in the numbers of group practices.

RÉSUMÉ

L'auteur décrit l'organisation d'une pratique de groupe pour des patients qui habitent les campagnes autour de Medicine Hat, Alberta. Le cabinet est situé dans le centre de la ville, près d'un terminus d'autobus. Le groupe consiste en quatre omnipraticiens, quatre assistantes au fauteuil et une réceptionniste qui s'occupe de comptabilité et qui agit comme gérant d'affaires. Chacun des dentistes garde son autonomie et les patients reçoivent les services du dentiste de leur

choix. Les quatre dentistes sont sur un pied d'égalité et ils se partagent l'administration du bureau. Un s'occupe de la question affaires; un autre des achats, un troisième de l'entretien de l'édifice. On travaille six jours par semaine. Deux dentistes sont en congé, le samedi, et deux autres, le lundi. Chacun prend un mois de vacances. Les assistantes ont deux semaines de vacances payées, un congé de maladie et une assurance médicale dont la prime est payée par les patrons.

L'auteur souligne ainsi les bénéfices de cet arrangement: organisation commode des vacances, économie sur le personnel auxiliaire, atteinte plus rapide du potentiel maximum de rendement. Les dangers d'une telle entreprise: tendance à donner aux services une allure de production à la chaîne, incompatibilité des caractères des associés.

Les dentistes plus âgés reçoivent un traitement égal à celui des plus jeunes, mais à un pourcentage plus élevé. A l'heure actuelle, un dentiste reçoit un salaire fixe. Chacun d'eux fournit son propre équipement.

569 Second Avenue

Urban Group Practice in Winnipeg*

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Members of most of the free professions practise in groups. Engineers, lawyers, chartered accountants and architects all fall into this category of practising in numbers. Medical practition-

ers too, have of fairly recent origin begun to associate together as witnessed by the large clinics that are spreading throughout the country.

Having practised with a group for a great many years, the writer heartily endorses group practice and suggests that the thinking of the dental profession on the subject of group practice must change.

* Presented at the Biennial Refresher Course, Faculty of Dentistry, University of Alberta, September 8-9, 1960.

Not only is group practice very rewarding for those participating; it is also a very efficient way to practise. Based upon the experience of fifteen years of group practice, the author describes what he considers an ideal group for the practice of dentistry.

MEMBERS OF THE GROUP

The group must not be too large. If a group becomes too big it becomes unwieldy, and if it becomes too cumbersome, there is a definite danger of it breaking up. The ideal group would include the following: the senior member, three men for paedodontics, three for operative dentistry, one for periodontics, two for crown and bridge prosthodontics, one for prosthodontics and one for oral surgery.

The Senior Member

This should be a man with many years of experience in practice. He should be a good organizer, with a genuine appreciation of dentistry and, above all, he should have real concern for the future of dentistry as a profession. He must have the ability to plan and yet at the same time, he must be practical. He must be able to understand people, their weaknesses and their strengths. He must be the cohesive force around which the members of the group gather and grow.

Paedodontics

Child patients constitute the backbone of present and future dental practices. It is therefore important to allocate the greatest number of partners in the group to the treatment of children. The more youngsters that are patients of the particular group, the greater the growth of the group will be in terms of child patients as well as adults who accompany these children.

Operative Dentistry

Three partners could probably take care of this aspect of the practice. With the high-speed equipment nowadays available,

which will probably become much more efficient in the near future, and with the preventive services rendered by the paedodontic partners for young patients, there is no reason why more than three partners would be needed for operative dentistry.

Crown and Bridge Prosthodontics

There is a definite trend towards more precision type prostheses, both fixed and removable, and this trend will likely continue. Two partners for crown and bridge prosthodontics using modern equipment should be able to meet the requirements.

Prosthodontics

One partner assigned to prosthodontics would be adequate for the group. With improved methods of preventive dentistry and with the changing attitudes towards auxiliaries, prosthodontic practice will undergo change and will eventually be delegated to auxiliaries trained by and working under the supervision of the dentist. This will have a tendency to direct the dentist into fields which ought to be his domain in any case.

Periodontics

The partner assigned to periodontics will occupy a very important position in the group. Perhaps two might be needed. Unless every effort is made to preserve the teeth and the supporting oral structures, the restorative services of the practice will be on very shaky ground.

Oral Surgery

The partner assigned to oral surgery should not be exclusively occupied with the removal of teeth. He will also perform apicoectomies in endodontic procedures and provide necessary surgical preparation for implant dentures.

PHYSICAL ACCOMMODATION

In order to function efficiently and comfortably, the group must have proper

facilities with adequate provision for a business section and for the dental area. The business section should contain the reception area, cashier's wicket, filing cabinets for all records and the manager's office. The dental area should have sufficient operating rooms, diagnostic rooms, x-ray facilities, photography section, rest rooms, central sterilizing area and laboratories.

These two main areas should be linked by adequate telephone and communication systems. Ease of access for the patients and employees into each of these areas should be provided for in the design of the physical layout.

ADVANTAGES OF GROUP PRACTICE

Individual Excellence

Group practice permits one to practise in that field of dentistry which one enjoys most. In the writer's practice each partner has the opportunity to limit himself to whatever phase of dentistry he prefers. It has been found that this raises individual proficiency and stimulates individual interest.

Postgraduate Studies

Many dentists are unable, for financial reasons, to leave their practices in order to take refresher courses and postgraduate training that are necessary for continued service in dental practice. Group practice facilitates postgraduate training for members of the group without disrupting continuity within the practice.

Auxiliary Aides

Auxiliary help can be used to the greatest advantage in the group practice setting. The auxiliary help which has been employed in the writer's group practice includes a business manager, a dental laboratory technician, an x-ray technician and other assisting staff such as chair-side assistants and dental hygienists.

Probably the most important member of the auxiliary staff is the business manager. He acts as credit manager and sup-

ervises bulk purchasing as well as employment of other auxiliary help. This allows the dentist to perform the service while the business manager arranges all the financial details with patients. The writer considers nothing so onerous or burdensome as having to discuss the financial aspects of a contract for dental care. This should be put into the hands of a person best fitted for the task; and this certainly should not be the dentist.

Because of its size, a group practice can justify the maintenance of its own laboratory facilities. It is very convenient for the dentist to have direct access to the laboratory technician. The dentist and the technician can jointly study the patient's needs. Furthermore, proximity of the laboratory facility tends to speed up service to the patient.

As opposed to the general purpose assistant in most individual dental offices, group practice offers the advantages of a true chair-side assistant who is there at all times to help the dentist with the operations being performed. This assistant does not have to leave the operating room in order to answer the telephone, make an appointment or collect a fee. This is all done through the business office. As a result greater efficiency is attained because the business section is separated from the dental area. In group practice, too, there are always sufficient assistants to help train the new ones.

Again, because of its advantage in numbers, the group can retain a dental hygienist and keep her fully occupied. The group can likewise employ a full-time x-ray technician to develop and mount radiographs and to assume other related duties.

Efficient organization and utilization of auxiliary help contributes valuable productive treatment time.

Economics

The economic features constitute the greatest single factor in support of group practice. Size of the group justifies bulk purchase of supplies and permits more

efficient purchasing. Because of proper business management by a well trained executive and staff, there is no question that group practice operates more efficiently and gives greater financial returns. Proper compensation encourages better service. Because of the increased amount of pure operating time, group practice permits the accommodation of a proportionately larger number of patients than can be treated in an individual practice, thereby yielding larger earnings. There is a greater growth potential through patient referral in group practice than in an individual practice.

Patient Preference

It has been our experience that patients like to come into a clinic type of practice. They have a little more confidence and feel more comfortable when they know that there is more than one dentist to whom they can turn. This also helps to build the volume of patients.

Illness

The economic disaster of either short or long illness can be avoided by group practice. Short illness can be easily absorbed by other members of the group. For an illness of long duration, the writer's group has a sickness and accident insurance policy whereby the insurance company's premium is paid by the group and in the event of prolonged illness of one member of the group, earnings are continued, and the insurance benefits are collected by the practice.

Death

One of the great weaknesses of individual practice is that in the event of death of the dentist, the widow, as far as the dental practice is concerned, is left with very little tangible assets. The equipment is usually antiquated and of no value. Goodwill, as represented by the number of patients that were still with the dentist at the time of his death, of course, is not for sale. Instruments have no value. Unless the dentist has made provisions in other directions for his

widow and his children, he has nothing to bequeath. Group practice, to a great extent, solves this problem. As members of the group, all partners own shares. The group possesses equipment, accounts receivable, and supplies, and whatever else it wishes to acquire, such as real estate, etc. The members do not individually own supplies or dental equipment. The shares are salable to the existing members or to new members who join the group at a later date. Thus there are tangible assets which can be sold in the event of retirement or death. In the event of death of any partner the writer's group has arranged a group partnership insurance plan that redeems the shares of the deceased. Also when a senior partner desires to reduce the responsibilities of practice, he may sell his shares to the group or to any new dentist who wishes to join that group. He may then elect to work as many hours or as many days as he wishes on a commission basis. This works well both for the group and for the individual because, on a percentage basis, the group still earns a certain amount of money from this individual's practice, while at the same time he is gainfully employed and may retire gracefully.

Maintenance of Income Level

A dentist builds his practice in the first ten years after graduation. His income remains level for the next ten years, and then in the third decade there is a gradual decline. This phenomenon is related to productivity and aging of the practitioner. Further, because of the death of some patients, the moving away of others, and because younger people tend to seek younger practitioners, there is a fall in the volume of services and financial returns during the latter ten years. In group practice, however, this is not so, because a group, in order to survive, must constantly strive to attract young graduates as new members. The younger dentists attract the younger patients. They are enthusiastic and are able to undertake work that the senior partners are no

longer able to do. On the other hand, the younger members benefit from the experience of the senior partners.

Consultation with Associates

The ready opportunity to discuss problems and techniques with associates who are constantly present is a further asset of group practice. This improves the standard of diagnostic and treatment service rendered to patients. Physicians enjoy similar benefits through their contacts with one another in hospitals. Dentists practising in a group environment, under observation from their peers, are stimulated to high standards of dental practice. Monthly staff meetings also help a great deal in maintaining enthusiasm and interest.

Economy of Equipment and Facilities

Costly equipment can be more easily acquired by a group because several individuals can use the same units. For example, a single x-ray machine and a single sterilizing unit can serve the entire group. Under these conditions there is no reason why a group cannot always have the most modern equipment available.

Emergencies

Requests for emergency attention frequently disrupt carefully scheduled appointments. With a group, however, there is usually someone available when emergencies arise. This liberates operative time and enhances productivity.

Vacations

Vacations are a very costly item in individual practice. Costs continue, while income stops. Unlike a good many business establishments individual dentists cannot afford employee lay-offs during periods of recession or vacations. With group practice, holidays are carefully scheduled so that not too many dentists are away at one and the same time. It is then quite simple for the remaining dentists to handle the patients of members who are on vacation.

DISADVANTAGES OF GROUP PRACTICE

Incompatibility

Compatibility of the members of a group is a prime necessity to the success of group practice.

Recruitment

Because the concept of group practice is relatively new in dentistry, it is difficult to recruit well qualified new members. There seems to be a fear among a great many young dentists that they would lose their independence or their identity by joining a group practice. The writer has been told this many times but knows it to be a fallacy, albeit a most difficult one to refute. It should be clearly understood that in forming a group or joining a group, the dentist does not lose his identity or independence. By joining a group, and by performing exceptional service, he not only enhances the reputation of the group as a whole, but also creates an identity for himself both within and outside the group.

Volume Practice

A group practice requires a large constant volume of patients to offset a large constant overhead. Because of this factor regular business banking arrangements must be concluded to permit overdrafts and the establishment of fixed credits.

CONCLUSION

Some aspects of an urban group practice which has been in operation for over fifteen years in Winnipeg, Manitoba, have been described.

The advantages of a well planned group practice by far outweigh the disadvantages and more dentists should consider associating together in groups.

RÉSUMÉ

L'auteur, à la lumière d'une expérience de quinze ans, décrit une pratique en

groupe dans un centre urbain. Il croit que l'idéal serait de grouper un dentiste plus âgé, responsable de l'organisation, avec trois autres qui s'occuperaient de pédodontie, trois de dentisterie opératoire, un de périodontie, deux de couronnes et ponts, un de prothèse et un autre de chirurgie.

Le personnel auxiliaire d'un tel groupement se compose d'un gérant d'affaires, d'un technicien, d'un technicien de radiographie, d'assistantes au fauteuil et d'hygiénistes dentaires. Le gérant d'affaires s'occupe de l'achat du matériel,

de l'embauchage du personnel auxiliaire et des questions financières avec les patients. Les avantages de cet exercice de groupe sont les suivants: partage des services auxiliaires, économie réalisée sur les achats en grande quantité, remplacement en cas de maladie et de vacances et épargne sur le fonctionnement de l'équipement. Les inconvénients: exigence d'un nombre considérable de patients, crainte qu'éprouvent les jeunes dentistes à se joindre à un groupe, incompatibilités de caractères.

Kelvin at Carman Streets

Social Trends in Dentistry*

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Recognition must be given to the fact that we live in a very different world from that of a few decades ago. The whole idea of social security is securely married to politics. Political success has come to depend more on popularity than ability. The easiest path to popularity is by taking the path of least resistance. Today the path of least resistance is the direction which will produce the most votes. It may not follow that what may be the most popular is always best for the public. Not so long ago we used to hear about the statesman and the politician. It seems that we hear very little about the statesman these days. These characteristics and

more make up the age we are living in.

Another feature of this period is the rapidity of change in attitude toward social matters. This point can be illustrated simply by referring to the terminology utilized. The term 'welfare state' is no longer in vogue, being now classified as belonging in that ancient age of the 1940's and referred to as being in the same class as the model T Ford. Use of the term 'health insurance' is being discouraged, for which two reasons are given. First, that health insurance is a misnomer and second, what is really proposed is a program of health services for the people and not health insurance. In reference to planned health services the word 'socialism' no longer appears, except when used by the critics. Only a few years ago these terms were freely used by all writers on the subject of social trends in health services. The movement is referred

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to today as 'planned health services for the people' and the responsibility is said to be that of capital, labour and government. These alterations in nomenclature have significance and indicate a rapid forward pressure in altering of attitude toward the whole matter of health services.

The importance of these attitudes to all branches of the health services can hardly be over-emphasized. The influences from outside the professions entirely can determine largely what the dentist of the future will be. This point is illustrated over and over in many countries. Great need exists for a better understanding of the position of the profession in relationship to the social trends of the day.

THE POSITION

Whatever historians may designate the present period in history, the facts are that a great social revolution is taking place on a world-wide basis. All developed countries are in this process at some stage. Naturally, some countries have proceeded further in this social development than others. It is rather notable that the process has been slower in federated countries. Undoubtedly this is due to the political arguments in respect to what is referred to as 'state rights'. However techniques are in vogue which are gradually overcoming this road block.

The title of the movement varies from country to country but in all it is known as some form of security. Most developed countries have adopted legislation under various nomenclature which provides security and can be referred to as old age pensions, unemployment insurance, mothers' allowances and several other forms of security. On examination of these legislative measures in the various countries, it is shown that sooner or later health services are made a part of the security or social movement.

In some cases health services were initially included in such legislation while in others these services became integrated

at a later date. In nearly every country the health professions strenuously opposed the inclusion of their services under the security legislation. As a matter of fact, in many cases the health professions spent all their energy in opposition, making little or no effort to avoid the issue through constructive proposals.

Health services have become inextricably mixed with political considerations. While this situation is of comparatively recent origin on this continent it should be pointed out that in other countries this condition has existed for many decades. Too often perhaps, even in democratic countries, we are inclined to classify the politician or the government as isolated in opinion, and particularly is this so when the expressed thinking is adverse to our own. Probably we would do well to think more in terms of government as meaning the people. No one is more adept at grasping the thinking of the majority of the people (or the voters) than the politician.

All this brings us to a place of decision. Either we stand by in status quo fashion and let events take their course or we make determined effort to meet the situation. Middle ground is a scarce commodity and furnishes treacherous footing. It is hard to believe that the dental profession can be isolated from the change occurring in all other sections of society. This situation constitutes a problem of major proportion for dentistry. The need is for constructive action in retaining leadership.

We know too well that the profession in many countries lost leadership and it is well to investigate how this occurred. In nearly every case the professions spent their energy in stringent opposition activities down to the last hour. Surely a lesson is to be learned from their experience. Two facts are significant. First, it should be realized that government is all-powerful but the majority of dentists refuse to acknowledge this elementary fact. Second, no one can show one case where the issue of health insurance was vetoed

by a vote of the people. The issue is probably the best vote getting plank in any party platform today. To most students of social trends the famous legal phrase '*res ipsa loquitur*' meaning 'the thing speaks for itself' explains the situation.

By no means does a profession accept radical change readily, and rightly so. The whole training of a professional man teaches him to be cautious of new or radical innovations. When he talks of alteration in practice methods he speaks of pilot or experimental plans and this is as it should be. However, in this social phase which is rapidly becoming part of professional life, he has been exceedingly slow to grasp its meaning. This is quite understandable because of the dentist's concentrated effort on the scientific side and actual practice of dentistry. One thing is certain, the average dentist has spent little time in perusing the voluminous writings of the social scientists.

What do these people say? Let me quote from a book published during recent months by a professor of social work:

"To some extent the introduction of a national health service may mean a spreading of medical resources more equally throughout the population, the services to people in the lower income group being better than before and those for people in the middle income groups possibly somewhat more restricted."¹

Interpretation of this statement is apt to vary considerably. The inference made by the professor is that quality of service is sustained with good services being provided for the low income group and somewhat less in amount of the same good services being available to the middle income group. Like so many such statements this is pure theory. The health professions make a very different interpretation in saying that the quality of services deteriorates rapidly under such a plan. One fault in the argument of the health professions in refuting such statements is that the refutation ends with this type of reply. From the viewpoint of the social scientist no answer at all has been given and I fear the same holds true in the political sphere.

The real need is for constructive answers to meet the pressures of the present social movement into which the health professions are enmeshed. The answer must satisfy two views, not just that of the profession. Answers which are most plausible and logical within the profession often do not prove to be very acceptable to the proponents of social security in health matters. The statement just quoted summarizes well the position taken in this great movement. How do we in dentistry answer it?

To go a step farther in this type of statement. In support of a government-supported health scheme it is said in various ways that at the present time a percentage of the people receive excellent health services and it is better to distribute these services to all the people even if the resulting services are somewhat lowered in quality. What is good for part of the people should be made freely available to all the people is the cliché utilized.

Let us face the issue squarely. Who objects to accepting a cheque from the government? Who will object if the government chooses to pay the bill for health services rendered? Regardless of all objections, the fact remains that it is the popular thing to do. I have searched diligently and unsuccessfully to find a single instance anywhere where the people voted against government - supported health services. In reverse the issue has been supported overwhelmingly by the voters every time. People have different skins, they differ on religious principles, they may quarrel one race with another but when it comes to getting something free from the government they are the same the world over.

A characteristic of social trends is that they build up. History shows that if artificially damned back the pressures become explosive. If undirected, and without plan they become indiscriminately harmful. In former times the eventual result was a full scale revolution. In our times they suddenly hit us, probably as

the aftermath of a democratic election. In any event we are caught unprepared. This is the crisis the health professions have found themselves in country after country. A football team with only defensive plays seldom wins games.

THE SIGNS

Some delineation of meaning is necessary. Of certain things I am reasonably positive:

1. Private practice will continue regardless of alterations in health services. The form will gradually change but there will always be the demand for private practice. The percentage of dentists who will conduct private practice will depend largely upon the profession solving the social problems related to their services.

2. The rigid individualism of the dentist will lessen. The social pressures are too great and directed away from the retention of strong individualistic traits.

3. Health services of the future will be designed more and more in the interests of the patient. As a result the methods of carrying on the services will alter. This is not any reflection on the dentist for his services have always been in the best interests of the patient. Rather it does mean that the facilities for health services in general will tend to be more integrated to the advantage of the patient.

4. Comparatively, dental health services will receive much greater emphasis. An examination of health reports both by health authorities and lay groups increasingly points up two things: (a) that dental health is an essential health service; (b) that dental health constitutes a major health problem. Of course these points are not new to us, but the increasing emphasis by others is significant. This emphasis can only mean increased demand for solution of dental health problems.

In clarification of the position we are told that the conduct of the practice of dentistry today does not solve nor indeed does it in its present form appear as if

the dental health problem of the nation will be greatly improved without radical alteration. This is the problem to be met in its widest social implementations. Hence the need for searching analysis and leadership which should come from the dental profession.

In European countries health people talk a great deal about how to serve the masses, a term not used with the same significance on this continent. But from the social view-point this term expresses the aim very well. The history of the health professions is saturated with efforts to widen the scope of the services. Gradually, year by year, more and more of the population have benefited from excellent health services. The chief difference now is the demand for acceleration in the process due to existing social pressures. The dangers are that the quickening pressures will destroy or inhibit the progress attained thus lowering the quality of service.

PERTINENT MATTERS

Generally it is conceded that pressures on the health professions will continue, reaching a crisis probably sometime during the present decade. Certain pertinent points stand out:

1. Basic policies or stated principles for a health profession are essential. Their effectiveness is determined by how closely they are in harmony with the social trends of the day. With the rapidity of change in our social environment established policies are constantly in need of review, with alteration when disharmony exists. The establishment of policy should not follow the current pressures but rather provide direction and furnish leadership. Too often the health professions have been in the position of first fighting the issue and later giving in. It is this type of action which discredits the health professions in the eyes of their publics. Testing of public opinion clearly indicates that the relationship between the individual patient and his personal dentist

is excellent. But the same individual attitude toward the health professions as a whole leaves much to be desired.

2. Before we have found a satisfactory solution for dental care of the youngest age groups, we have the pressures on us of the need to deal effectively with the dental needs of the aged. In the midst of these two dilemmas we begin to read about mediatries, meaning the care of the middle-aged group. The pressures are progressive and do not end by supplying services to any one specified group but rather continue from one group to another.

3. In terms of improving the dental health of the nation proof has been established on all levels, scientific, economic and as to feasibility in true dental health, that there only exists one way to accomplish the objective. The only feasible method is to establish a program of prevention and control through adequate dental care of the youngest age groups of the nation. This is a true health objective and furnishes a positive action program. The United States Commission on the Survey of Dentistry strongly recommends concentration on care for children. Strong emphasis on this age group can have the effect of minimizing the demands of other age groups. In several countries this type of program has almost been the final answer to the social demand.

4. The whole training of the dentist has been directed toward acquiring knowledge and skill so that he may render an excellent service. This is most creditable. However, he now finds himself with new social concepts surrounding him and he is often ill-fitted to cope with them. Fair judgments are based on knowledge of both sides of problems. Need exists for a widening of the school curriculum to include training in the social sciences. The benefits of such training in the undergraduate program will at best be slow in effectiveness. Necessity exists for education of the profession in this area of knowledge.

5. In order to cope with the planned health services already in existence there is need for those who are trained in administrative skills. In countries where large scale care plans have been introduced the lack of trained administrative personnel proved to be a great initial weakness. If the supposed future situations are to be met decision will have to be reached whether or not the profession is going to control its own services. To do so dentists trained in administration will be a necessity. Otherwise the administration of planned dental services will fall into other hands.

6. The productivity of the dentist is questioned in language of a very expensively trained individual doing tasks which could be done just as efficiently by personnel of lesser training. It is argued that if the dentist did only what his high training demands him to do, and properly trained auxiliaries did the rest, the services of the dentist would be greatly expanded covering increased numbers of people. Comparatively, it is said that such division of work long since has taken place in practically all occupations, including other professions, except in dentistry. Leadership in this matter is currently being attempted or actually exercised by governments. The demand for more and more planned health services will accentuate such action from outside the profession. In the interests of dental service for the public the initiative for the proper type and training of auxiliary personnel should come from within the profession, not from outside.

7. The development of fee schedules over the years has been a haphazard process resulting in a collection of items with some mongrel relationships. This matter is becoming a serious problem in relationship to current planning for health services. The current fees in use for the most part were established by custom and habit. To most of us the items appear reasonable and in order. The layman is critical of dental fees on two points. First, he wants assurance that the fee bears a

reasonable relationship to the particular service rendered, and second, that the fee bears an equitable relationship with the other fees on the schedule. Negotiations for the establishment of dental service plans are accentuating the need for adequate substantiation of the professional fee. The criticism is not based on the net income of the dentist but on particular items in the schedule and the relationship to other items. The social trends of today indicate more inquiring action of this nature in future. Under ordinary circumstances progress on such a subject would be slow indeed. However we are not living in ordinary times. The pressures are such that the profession should be prepared to provide proof in support of any particular fee. The need is for an equitable basis for the establishment of a fee schedule with comparative relative values. This is a difficult but not an impossible task. The retention of the fee for service method of payment has been adhered to by the dental profession in most countries where large scale dental care programs exist. However weak defence of the fee schedule has resulted in drastic alterations by authorities on their own basis of assessment.

No attempt is made here to state an all-inclusive list of pertinent matters related to social trends. Rather these are selected points which in one man's opinion make for trouble, if not solved in meeting the demands of expanded dental care.

SUMMARY

The pattern in development of this social movement in the various countries has certain similarities. In all, health services were originally on an individualistic basis. With variations in timing in the different countries voluntary insurance groups were formed. These voluntary groups gave way to compulsory forms of health insurance. One of the main reasons for the latter action lies in the fact that

the voluntary groups were made up of the middle and upper classes leaving out the lower classes who in the social sense of values had most need for health services. The experiences of other countries would tend to show that if this chain of events is to be broken one of two things must happen. Either there must occur a real change of attitude among public voters or something new in approach must be developed by the professions involved.

The timing of development elsewhere has depended upon social, economic and political considerations and hence is always unpredictable. The greatest difficulty in dealing with the whole matter is that we are dealing with a problem which is basically social in nature. Social science is an inexact science whereas we are trained in the exact sciences. When we follow a formula we expect to obtain a definite result; not so in social affairs. This fundamental difference in attitude makes for conflict in ideas between the health professions and those responsible for social trends. ✓

All know the trend of recent years in respect to the formation of plans for the expansion of dental services. In some of these plans the profession does not occupy the same position of control as of a few years ago. Any one would be rash in attempting to prophesy the future alterations that may come about in this respect. Endeavour is made here to establish two main points. First, it is clear that changes are taking place in dentistry due to social pressures. Second, need exists for strong leadership by the profession in order to assure a proper dental service for the public. While these two statements are simple in nature, their implications embrace the whole of dentistry.

A strong tendency exists to emphasize the dangers of the position and in doing so we probably miss the opportunities. The present environment of rapidly changing social conditions offers real opportunities for sound progress in dentistry. Unprecedented emphasis is placed on

health activities today; more financial support for health matters is available than at any former period in history; and more people are keenly interested in health affairs than at any previous time. All of which offers greater opportunities for dentistry than ever existed before. Let us not miss the opportunities.

RÉSUMÉ

La marche suivie par la socialisation dans différents pays se ressemble sous plusieurs rapports. Au début, les services de santé, partout, se prodiguaient d'un individu à l'autre. Plus tard, à différentes périodes, selon les pays, des individus se sont groupés pour se protéger collectivement contre les risques de la maladie. Ces initiatives privées ont fait place à des systèmes obligatoires d'assurance-santé. Ces modifications se sont produites surtout parce que seules les classes aisées de la population pouvaient se permettre cette protection; les indigents, qui étaient en fait ceux qui en avaient le plus besoin, dans le sens des valeurs sociales, ne pouvaient pas en bénéficier. L'expérience d'autres pays nous montre que, pour changer la tangente de cette évolution sociale, deux conditions sont essentielles: la mentalité des électeurs doit se modifier profondément ou les professions elles-mêmes doivent adopter une attitude nouvelle en face de ces événements.

Le rythme de cette évolution s'est basé sur des facteurs sociaux, économiques et politiques imprévisibles. Les solutions à ces problèmes sont difficiles à trouver, parce qu'ils ont à leur base des principes sociologiques. Les sciences sociales sont faites de probabilité; nous sommes formés aux disciplines positives. En suivant une formule, nous arrivons à des résultats définis: il n'en est pas ainsi dans le do-

maine social. Les membres des professions sanitaires ne parlent pas le même langage que les sociologues.

Nous savons tous le travail qui s'est fait au cours des dernières années pour augmenter le volume des services dentaires. La profession, dans plusieurs de ces tentatives, n'exerce plus le même contrôle que dans le passé. Et bien perspicace serait celui qui pourrait prévoir les modifications qui vont se produire dans ce domaine.

Cet article se propose d'exposer deux idées. D'abord il est évident qu'une influence socialisante s'exerce sur la profession dentaire. Ensuite celle-ci doit prendre les devants pour assurer au public les services qui conviennent et dont il a besoin. Ces deux idées, malgré leur apparente simplicité, exercent une profonde influence sur l'ensemble de la dentisterie.

On a tendance à exagérer les dangers de cette situation et, de ce fait, on risque de piétiner sur place. Au contraire, les modifications qui se produisent dans le contexte social de notre époque devraient stimuler la dentisterie à orienter ses activités vers un véritable progrès.

La population se préoccupe plus que jamais des questions de santé; on trouve pour ce domaine des ressources pécuniaires introuvables jusqu'ici; on accorde une importance primordiale aux problèmes sanitaires.

La profession dentaire doit profiter de ce réveil nouveau. Il ne faut pas qu'elle laisse passer cette occasion.

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234 St. George Street

EDITORIALS

Financing Dental Care In Canada

Dental care is susceptible to three methods of financing — the traditional method of cash payment, budget payment or postpayment, and prepayment. The importance of the two alternatives to cash payment stems from the fact that dental care received is frequently a function of family income.¹

Canadian consumers are accustomed to financing commodities and services on a periodic payment basis. Recently, this principle has been applied with increasing frequency to dentistry and we have witnessed the emergence of postpayment plans in eight provinces to enable patients who are unable to meet the cost of dental care on a cash basis, to have the treatment rendered and pay for it in periodic instalments. These plans have been established by the dental profession in whom control is vested.

Since economic status is a major factor in dental care utilization, limitation of the postpayment principle is recognized. Consequently, increasing interest has centered in the possibility of financing dental care through prepaid insurance schemes, whereby periodic payments are made in

anticipation of dental expenses on the part of a large number of people who become entitled to receive dental care on a regular basis. Similar principles apply to government dental care programs such as provincial dental welfare plans and to labour-management contracts which seek to include dental benefits for the employees.

Fundamental to postpayment and prepayment plans is the need to establish policy governing coverage, nature and amount of benefits to be provided. This has led to the concept of the "Dental Service Corporation", a legally constituted, provincially chartered, non-profit organization established by the dental profession for the purpose of providing prepaid dental care to voluntary group purchasers, to government welfare recipients and postpaid dental care to the public at large. Such dental service corporations should have lay representation in order to function effectively. Dentists, because they control the corporation, can also protect the quality of the dental plan offered. The consumer group, because it is dealing with a single pro-

fessional vendor, is relieved of the day to day administration of the program and of the necessity for supervising quality of care controls.² Thus the dental service corporation is visualised as an agency which contracts with consumer groups for dental care, acting on behalf of the profession which controls it, having representation from consumer groups, and acting as the policy making body in respect to provincial prepaid and postpaid dental care plans.

Canadian Dental Service Plans Incorporated was originally conceived and established by the dental profession as an organization for the purpose of providing postpaid dental care to consumers. It has rapidly developed into an agency capable of providing low cost accounting and administrative services to individual dentists and to dental service corporations established to implement prepaid or postpaid dental care. Canadian Dental Service Plans Incorporated can provide accounting services for plans in provinces where it is uneconomical for the dental profession to establish separate accounting facilities. As a source of such service, Canadian Dental Service Plans Incorporated is preferable to commercial accounting services since it was established and is controlled by the dental profession. This organization is prepared and equipped to administer a dental service plan in accordance with instructions laid down by a provincial dental service corporation.

Undoubtedly, further growth in the field of prepaid dental care, both as government dental welfare plans and as plans

for voluntary group purchasers, is to be anticipated in the future. The dental service corporation constitutes an effective mechanism whereby the dental profession can negotiate relevant dental service contracts, supervise policy, and control the quality of care. While the original members of the board of a provincial dental service corporation will likely be elected by the provincial dental body sponsoring the dental service plan and by the participating dentists, it is important that the recipients of the dental service should have representation as well.³

Interest in prepaid dental care plans by consumers who are represented in more than one province, such as national business enterprises, trade unions, etc, will impose the need for some co-ordination in the benefits provided by different provincial dental service plans to potential consumers of dental services. Perhaps it is not entirely unrealistic to hope that Canadian Dental Service Plans Incorporated might eventually develop as an agency to provide national liaison for the different provincial plans, in addition to its administrative and accounting functions.

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2. U. S. Department of Health, Education and Welfare. Public Health Service. Division of Dental Resources. *The Dental Service Corporation in a Public Assistance Program*. Washington, 1959.
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DENTAL PERSONNEL IN CANADA

In January 1961, 5,865 dentists were registered in Canada. — C.D.A. Bureau of Economic Research.

Alberta's Bill 59

The recent enactment into law of Bill 59 (A Bill respecting Certified Dental Mechanics) by the Alberta legislature provides a rare insight of how public policy relating to health matters becomes the victim of confused thinking.

At issue was a bill which permits dental mechanics to deal directly with the public respecting the fabrication and fitting of dentures. A similar bill presented at the 1958 session of the legislature was permitted to die in committee on the assurance of the Minister of Health that a representative committee would be established to study the whole matter. The present measure was introduced earlier this year as a private member's bill. It produced a sharp division of the house, cutting across party lines and splitting the cabinet. Although carried by a vote of 36 to 25, no one can be happy about the result — least of all the public which relied on the legislature for direction.

As an editorial¹ in the *Calgary Albertan* points out, there were two questions to be decided by the legislature. The basic one was whether the standards of knowledge, skill and ethics of the dental mechanics were sufficient to permit them to make and fit dentures on their own without hazard to the health of those requiring such services. If so, the second question was to determine whether the public could benefit from the provision of such services which the mechanics claimed they could offer at lower prices.

If persons with little or no dental training can do the work of dentists, do it just as well and at lower cost, there is no valid reason why they should be restricted

from doing so. The public interest, not the wellbeing of the dental profession or any other group, should be the greatest concern. But the question of the mechanics' competence and public safety received only the most cursory treatment. Although claims were advanced purporting to show the reduced cost of services emanating from the mechanics, there is no indication that either the public safety or the economic aspects of the matter had been thoroughly examined as a prerequisite to approval of the dental mechanics' request.

Dental care is not simply a matter of mechanics. It is a matter of health, just as ophthalmology, otolaryngology or urology are matters of health. The provision of dental care surely requires someone trained in the health of the mouth, namely the professional dentist.

The Canadian Dental Association supports the principle of delegation of selected technical services to trained auxiliaries acting under supervision of a qualified dentist who retains full responsibility for the patient's dental welfare. If we can thereby extend the availability of high quality dental care at reasonable cost, we are serving the public interest and the interests of dental science at the same time. Canadian dentists, however, cannot be expected to support a measure which allegedly seeks to provide the public with lower cost of services when there is no clear assurance of the competence of those intending to provide the service and where the public safety is at issue.

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DENTISTRY IN THE NEWS

Canada and the Provinces

COMMITTEE ON DENTAL SERVICES MEETS

Members of the Committee on Dental Services met at Association Headquarters in Toronto, April 13-14. In attendance were P. G. Anderson, committee chairman; L. Bernier; E. S. Dorion; W. J. Dunn; W. G. McIntosh; W. R. Scott; H. W. Reid; D. C. Stiles, chairman of the Dental Services Committee of the Royal College of Dental Surgeons of Ontario; R. D. Leuty, representing the Ontario Society of Orthodontists; W. E. Jackson, administrator of Canadian Dental Service Plans Incorporated; and secretary Don W. Gullett along with other association staff members.

Consideration was given to the reports submitted by provincial dental services committees in British Columbia, Alberta, Manitoba, Saskatchewan, Ontario and Quebec. In future a summary of the provincial reports will appear in the annual report of the Committee on Dental Services to the Board of Governors.

The Committee examined the brief of the Saskatchewan College of Dental Surgeons which that body submitted to the provincial Advisory Planning Committee on Medical Care in that province.

Consideration was given to salary schedules for salaried dentists. The Committee recommended that:

1. The Canadian Dental Association support the principle of equivalent remuneration for professional personnel employed in positions of comparable responsibility,
2. The Canadian Dental Association commend the efforts of organizations which observe this principle.
3. The Canadian Dental Association be prepared to offer assistance in support of this principle when so requested.

R. D. Leuty presented the report of a proposed prepayment plan for orthodontic services in a health insurance pilot project. This plan is to be the subject of further study.

Consideration was given to the Work Measurement Survey conducted by Mr. William Garriock on behalf of the British Columbia Dental Association. Purpose of this study was to determine how long it takes the average dentist to perform specific dental operations. Such information can be used to establish a relative value schedule which could then be translated into monetary terms. Information from the Work Measurement Survey will be made available to the Sub-Committee on Principles of Fee Schedules.

Mr. W. E. Jackson commented on bank finance plans for postpaid dental care. Canadian Dental Service Plans Incorporated continues to broaden the scope of its administration. The committee was reminded that these facilities are available to all provinces.

The C.D.A. model plan for prepaid dental care was reviewed as was clinic practice and private practice under prepayment plans. Dr. Dunn reported failure in two attempts to interest groups in dental plans based on the model. The model plan is to be the subject of further study.

Since its announcement to establish a Royal Commission on Health Services, the federal government had given no further details other than the name of the chairman. Other groups within the Canadian Dental Association have agreed to the formation of a steering committee should briefs from dental organizations become necessary. No specific action will be taken until additional information about the commission is forthcoming.

The committee received a report from the Bureau of Economic Research showing the relation between dental auxiliaries and productivity. The report showed that as a result of the use of auxiliaries, productivity was 57 per cent higher in 1953 and 77 per cent higher in 1958 than it would have been had all Canadian dentists worked alone.

CAREERS BOOKLET REVISED

An attractive new cover and title "The Advantages of Careers in Dentistry" are chief features in the revised edition of the booklet "Dentistry as a Professional Career".

The National Recruitment Committee recently recommended that material in the book be updated and a new, more attractive cover be added. It is hoped that the new cover will compete favourably with other publications on display at secondary schools and in dental offices. Single copies of the booklet are free. The price for quantities is ten cents per copy.

Every dentist in Canada should have a supply of this booklet to give to interested teenage patients. It is hoped that provincial and local recruitment committees will assume responsibility for distributing copies to secondary school principals and vocational guidance counsellors.

C.D.A. SPONSORED COLOGNE INTERNATIONAL CONGRESS TOUR

The Canadian Dental Association has again appointed Thos. Cook & Son, Travel Agency, to arrange an official tour to Europe for members of the Association who plan to attend the XIII International Dental Congress at Cologne in 1962. Details of the preliminary program appeared in the *Journal of the Canadian Dental Association*, Volume 27-No. 4-April, 1961.

The transatlantic crossing may be made by sea or air both ways, or a combination of sea one way and air the other. Passengers sail from Montreal on June 28, 1962 or fly from Montreal on July 4, 1962, arriving in London on July 5. The visit to the Cologne Congress extends from July 7-14. Thereafter visits will be made to Berlin, Vienna, Rome, Florence, Switzerland and the Swiss Alps, Paris and London. Flight passengers leave London and return to Montreal on August 7. Steamer passengers leave London on August 7, arriving in Montreal on August 14.

Those wishing to proceed to the United Kingdom ahead of the tour party may do so, joining the group in London. Others may wish to leave the tour group in Paris or London and continue independent travel on the Continent or in the British Isles.

Registration for the tour and travel enquiries should be directed to the nearest office of Thos. Cook & Son to ensure membership in the official tour and to secure best available accommodation.

CANADIAN SCIENCE FAIRS COUNCIL ACCEPTS ASSOCIATION AS SPONSOR

The Canadian Dental Association has become one of thirteen sponsors of the Canadian Science Fairs Council. Purposes of the Council include stimulation of young Canadians to better understanding of the contributions of science and research, and assisting scientific professions in their support of scientific progress and education.

At the request of the National Recruitment Committee and others, the Executive Council of the Canadian Dental Association recently decided to apply for sponsorship. K. L. Croft, director of Public Information and secretary of the National Recruitment Committee, was named to represent the Association on the Council.

The popularity of science fairs has grown rapidly in the United States and is increasing in Canada. A science fair is an annual exhibition of secondary school students' scientific experiments, projects or collections. High school, local or district, and regional or provincial fairs are being held particularly at this time of year. The Canadian Science Fairs Council hopes to hold a national science fair in 1962.

NEW GROUP OFFICE OVERHEAD EXPENSE INSURANCE AVAILABLE

Availability of a new group plan to provide monthly benefits sufficient to pay office overhead expenses where a dentist is disabled because of sickness or accident has been announced. The plan, available only to members of the Canadian Dental Association and administered by Professional and Industrial Pensions Limited, administrators of the C.D.A. Pension Insurance Plan, Retirement Savings Plan, Hospitalization Groups and Non-Cancellable Income Benefit Plan, is officially endorsed by the Canadian Dental Association.

A pamphlet describing benefits and premium rates in detail has been sent to all C.D.A. members. If, during the initial enrolment period, sufficient response is forthcoming from the membership, all applications will be accepted regardless of physical condition or medical history of the applicants. Premium rates per \$100 protection (available in amounts from \$200 to \$1,000) are \$20—up to and including age 49, \$25—age

50 to and including age 59, and \$31—age 60 to and including age 68. The plan fully pays all covered office overhead expense up to the amount for which the policy is issued (not to exceed \$1,000 per month). Typical items covered are rent, electricity, heat, utilities, telephone, laundry, accountant services, salaries of employees, taxes, postage, stationery, equipment depreciation, etc. Not covered are salary and wages of the insured or other members of his profession and the cost of pharmaceutical supplies and equipment.

STEELWORKERS SEEK UNION HEALTH CENTRES

A network of union health centres that will provide prepaid medical and dental care for members is the target of Canada's largest labour union, the United Steelworkers. At the union's annual wage policy conference on April 29, there was unanimous agreement to have management consent to finance three proposed union health centres in Ontario. Their inclusion in collective bargaining would be the foundation for a national medical care program, Theodore Goldberg, the union's health and welfare expert reportedly said. Group health centres, providing continuous and comprehensive family services, are the best if not the only workable basis for an eventual national health plan, the union official added.

When negotiations reopen between the union and the Steel Company of Canada and Algoma Steel Company this year, the union will propose that company-paid welfare plans be paid into union health centres rather than private insurance schemes. It is understood that the union is raising \$800,000 through check-off for a health centre at Sault Ste. Marie.

ALBERTA

Edmonton and District Dental Society. — President J. P. Whyte and secretary Don W. Gullett of the Canadian Dental Association were present at the society's meeting on March 2.

At the April meeting, the society was addressed by Dr. R. S. Van Alstine on the subject of oral surgery. Dr. C. R. Castaldi outlined the requirements for a proposed dental foundation and urged the members to support dental research financially.

BRITISH COLUMBIA

B.C. College of Dental Surgeons.—A meeting has been held between Mr. G. T. Cunningham and Mr. E. M. Gunderson, representatives of the board of governors of the University of British Columbia, and C. R. Hallman and D. J. Sutherland, representing the College, respecting the establishment of a dental faculty at the University of British Columbia. It was decided that the University be requested to invite John B. MacDonald, director of the Forsyth Dental Infirmary in Boston and author of a previous report regarding a dental faculty at the University of British Columbia, to return to Vancouver for the purpose of reviewing and amending his recommendations in the light of the most recent statistical data, needs and other pertinent considerations. An Auxiliary Services Committee has been established:

1. To investigate the present status of the C.D.A. policy statement on auxiliary personnel.
2. To consider the further services that could be performed by existing auxiliaries and to suggest the training and controls necessary for such expanded service.
3. To investigate the possibility of the use of, and training necessary for registered nurses as auxiliaries to the dental profession in public health and in private practice.

This investigation stems from the desire to provide the public with more complete dental care at lower cost, to make more adequate use of professionally trained persons, and to reduce the prevalence of dental disease thereby relieving some of the pressure for dental services.

The combined office of the College of Dental Surgeons of British Columbia, the British Columbia Dental Association and the Vancouver and District Dental Society has been moved to larger and newly-appointed quarters at 325 Medical-Dental Building, 925 West Georgia Street, Vancouver 1.

Vancouver and District Dental Society. — William Miller, president-elect of the Canadian Dental Association, acted as master of ceremonies at the formal bestowal of life memberships upon twelve senior dentists who have practised at least 45 years and who have been active members of the College of Dental Surgeons of British Co-

lumbia and the Vancouver and District Dental Society. The recipients were R. S. Goodwin, W. M. Hanna, E. C. Jones, R. L. Davison, H. E. Thomas, M. R. Parkin, G. R. Nimmons, E. L. Cox, A. E. Wark, H. Simmons, J. S. Bricker and W. H. Geddes.

Prince George Dental Society.—The dentists of Prince George and district have embarked upon a patient-education scheme in the form of radio and television programs.

The B.C. Dental Association has subsidized the venture for six months. Copies of the scripts used are being sent to the association office for future reference and for the guidance of other local societies who may undertake a similar effort.

A year ago this enterprising society set up a bursary of \$200 per year for dental students from the Prince George area.

Upper Island Dental Society. — These new officers have been chosen for this year: president, R. D. Bleakley; vice-president, H. J. Dombrowski; secretary, H. G. Pettapiece; program chairman, D. I. Lazaruk. At three of the six meetings this season both afternoon and evening clinics will be presented.

ONTARIO

Ottawa Dental Society.—At a recent meeting of the Ottawa Dental Society the following officers were elected for the 1961-62 season: J. C. Tanton, president; M. Florence, president-elect; J. H. Young, immediate past president; and E. J. Fox, secretary-treasurer.

J. Berman, H. F. Biewald, R. A. Copp, J. M. Earle, H. E. McIntosh, A. C. Murchison, J. Thomas, J. A. Whyte and C. E. Woods, were named to the advisory committee. L. R. Braden and H. E. Armstrong were appointed auditors.

QUEBEC

Montreal Alumni Chapter, Alpha Omega Fraternity.—The annual general meeting of Alpha Omega Fraternity was held on Tuesday, April 11. The following officers were elected for the 1961-62 season:

President—L. L. Druckman; vice-president—G. Silver; corresponding secretary—H. Hops; recording secretary—M. Gornitsky; treasurer—H. L. Levitt; editor—E. C. Burman; historian—I. Seltzer; librarian—L. N. Cohen; sergeant at arms—B. Sedlezky; and

chapter deputy—M. M. Greenblatt.

H. R. Skurnik, M. Star and D. Steinberg were elected as trustees.

The formal meeting was followed by a social gathering with the ladies during which Dr. W. Hymovitch, a psychologist, spoke on "Motivation Research".

Montreal Society of Orthodontists. — The eleventh annual meeting of the society was held on January 23, 1961. H. T. Oliver was the essayist.

The following officers were appointed for the current year: C. Asselin—past-president, Aneta Mendel—president, J. L. Bertrand—vice-president, and V. B. Griffiths—secretary-treasurer.

Montreal Dental Club.—The regular monthly meeting of the Montreal Dental Club was held at the Queen Elizabeth Hotel on April 17, 1961. Dr. W. J. Johnston, the president, introduced and welcomed Dr. John Fong Chong, a newly elected member to the Club.

A technique of closed chest resuscitation was described by Drs. D. Gilchrist and P. N. Neroutsos, dental internes at the Montreal Children's Hospital.

Dr. E. R. Ambrose, assistant professor and chairman of the Department of Operative Dentistry at McGill University, addressed the club on the subject of "Conservative Amalgam Restorations." In his opening remarks, he discussed the basic cavity preparation. Dr. Ambrose stated that a large number of restorations show too great a bulk of amalgam due to excessive removal of hard tissue. The marginal ridges and cuspal inclines should be conserved as much as possible, resulting in a narrow isthmus. The margin between tooth structure and amalgam should be outside the occlusal contact area wherever possible to reduce the chances of marginal fracture. A rounded pulpal axial line angle, retention in the buccal axial and lingual axial line angles, and a reverse bevel complete a proper class 2 preparation. The adaptation of matrix bands was discussed, and the importance of a proper proximal curvature on a class 2 restoration was stressed.

Dr. Ambrose described the use of the new piston type amalgamator. This machine controls the mercury-alloy ratio by the amount of pressure exerted. The resultant mix does not have the rapid, brittle set which is common in many mixes used. Using strain-hardened alloy, this amalgamator produces an amalgam which can be carved with ease, and with little danger of flaking or chipping.

In discussing quadrant treatment, Dr. Ambrose cautioned the practitioner to check centric occlusion on completion of treatment.

An anterior traumatism may be produced if the restorative treatment has closed the bite in the posterior region. This danger can be reduced by carrying out minimal occlusal cutting, which would result in very little loss of the occlusal contact.

International Items

FRANCE

International Implant Denture Congress Scheduled. — The European Dental Implant Association (Association Européenne Odontostomatologique pour les Implants) will hold its 3rd International Congress in Paris, July 6-8, immediately preceding the 49th Annual Session of the Fédération Dentaire Internationale at Helsinki, Finland.

The 3rd International Dental Implant Congress is being organized by the French Society for Implants (Société Française des Implants). The scientific program embraces "Indications and Contra-Indications for Subperiosteal and Intra - osseous Metallic Implants," "Complications of each Type of Implant," "Conception of the Prosthesis Attached to the Implant" as well as general discussions on the results and limitations of the procedure.

The social program includes excursions to Reims, to the Châteaux de la Loire, a dinner-cruise along the river Seine, and visits to museums and numerous other points of interest in and around Paris. Further information may be obtained from the Secretariat Technique SOFCI, 1 ter, rue Chanez, Paris 16e, France.

UNITED KINGDOM

B.D.A. Accepts Royal Commission Recommendations. — The Representative Board of the British Dental Association has accepted the recommendations of the Royal Commission on Doctors' and Dentists' Remuneration (*Journal of the Canadian Dental Association*, Volume 26—No. 7—July 1960). The decision was made on March 4 and communicated to

the Minister of Health who had previously offered to accept the recommendations of the Royal Commission.

Dentists have been remunerated on a fee-for-service basis since the earliest days of the National Health Service. The dental scale of fees, however, has been subject to alteration at the discretion of the Minister of Health. By his acceptance of the report of the Royal Commission, the Minister has surrendered his right to make arbitrary changes in the level of remuneration. In future, dentists' incomes will be determined by two bodies to be established under the provisions of the Royal Commission report. There will be a "Review Body" which will advise on desirable levels of remuneration and thus decide where in the national economy the dentist shall be placed. It will be the duty of a "Dental Rates Study Group" to implement the decision of the Review Body by establishing an appropriate scale of fees.

The Review Body will consist of seven members appointed by the government after consultation with the professions. No members of the medical or dental professions would be included.

UNITED STATES

Michigan begins Prepaid Care Plan. — The Michigan State Dental Association approved in mid-April a new prepaid dental care plan to offer to business, industry and labour groups. The plan was presented at the annual session of the Michigan association, and Dr. F. D. Ostrander, who will head the new Michigan Dental Service Corporation, said he anticipated "that one or more prepaid dental care plans will be in operation within a few months." At first, care will be limited to such procedures as fillings, extractions, periodontal treatment, radiographs and dentures. It will be a fee-for-service plan rather than an insurance-type operation and contracts will be between the M.D.S.C. and interested groups. Premiums to be paid will be based on utilization, Dr. Ostrander said. He estimated that the first year premium will be about \$32.50 for each member of a group who receives dental care. This premium could well be reduced the second year as long-existing conditions are corrected.

According to the most recent surveys, there are now prepaid dental care plans covering some 580,000 individuals in the United States. This is an increase of 40 per cent since 1958. The utilization range of prepaid dental care groups presently averages 50 to 60 per cent. In other words, if a group has 1,000 members from 500 to 600 see a dentist within one year.

Dental Auxiliary Productivity Test. — The possibility of a future shortage of dentists in the United States has led to serious professional consideration of how individual dentists can increase their productivity by using well-matched and trained assistants.

It has been estimated, according to Dr. R. J. Nagle, dean of New York University's College of Dentistry, that as many as 36 per cent more patients can be treated by such a dental chairside team. The College has received a research grant from the U.S. Public Health Service to determine the degree of increase in productivity.

For the first time, Dr. Nagle said, senior dental students at the College, working with trained female assistants under measured clinical conditions, will confirm or alter existing estimates. New York University's research program involves 64 students and eight assistants for the first year. The students were selected at random from a class of 165, and each was matched with the assistant who best complemented his personality. The professional pairing-off was accomplished by means of "personality profile" tests administered by Dr. J. J. Sullivan, a New York University psychologist.

The team program is being conducted in the Fixed Partial Prosthesis Department, which is headed by Dr. D. H. Coelho.

"There is no doubt that a dentist can increase his productive capacity through co-operative teamwork," Dr. Coelho commented. "He can treat more patients in less time and do a better job of it than when he works alone and unaided."

The program, he said, will not only accustom dental students to the advantages of working with trained assistants but will also, he hopes, convince the future dentists of the desirability of employing dental assistants at the very start of their private practice.

The assistants, all of whom have experience as dental aides, were selected by Dr. S. Ravinett, supervisor of the "chairside dental assistant-training program."

To help increase their efficiency, students in the research program also have been provided with the latest dental equipment, including "break-away" stools, which are fastened to the dental chair and swing freely around it. The students also learn to use modern high-speed drills, which operate best with the help of the dental assistant who continuously uses an aspirating device, to remove the water being sprayed on the tooth to keep it cool, while the dentist is operating.

Dr. Coelho estimates that possibly half the practising dentists in the United States have chairside assistants. "The question is," he commented, "how many assistants are employed actually to help treat patients in-

stead of simply serving as office 'housekeepers'?"

A good trained assistant can save the dentist's time and energy, he said, by such chairside work as preparing and laying out the materials to be used in the treatment of patients, sterilizing instruments, seating patients in the dental chair, and doing certain routine laboratory work.

Dr. Nagle said that the grant to New York University's College of Dentistry would very likely be renewed to extend the research program for several years. The program is important, he declared, because dental care for the rapidly multiplying American population will require the graduation of 6,000 additional dentists annually by 1970. At present, 3,500 new dentists are graduated each year. The country's dental schools will be hard-pressed to meet the estimated future quota, he said.

Canadian Dental Schools

DALHOUSIE UNIVERSITY

Establish new Dental Hygienists' Training Course. — Dalhousie University has established a two-year course leading to a Diploma in Dental Hygiene. Preference for admission will be given to residents in the Atlantic provinces, but applications by well-qualified students from other provinces or countries will be considered.

The first class will be accepted for September 5, 1961, and will be limited to eight students, although it is intended to accept classes of twelve in subsequent years.

Mrs. Janet R. Burnham, a native of Duluth, Minnesota, has been appointed as assistant professor in the Faculty of Dentistry, and director of the School of Dental Hygiene. She received her early education in St. Paul, Minnesota, and is a graduate dental hygienist from the School of Dentistry of the University of Minnesota in 1936. In 1954 Mrs. Burnham received her Bachelor of Arts degree from the State University of Iowa.

Mrs. Burnham's wide experience within her profession makes her exceedingly well qualified to undertake her new duties at

Dalhousie University. Following a period of private practice in St. Paul, she has had a number of years of experience in public school systems, public health departments, and since 1954 she has been teaching in the Department of Dental Hygiene at the State University of Iowa College of Dentistry.

Mrs. Burnham has been a member of state and national dental hygiene associations in the United States, serving on several important committees of these organizations. She is the author of several publications, and developed the brochure "Careers in Dental Hygiene" for the Aptitude Testing Committee of the American Dental Hygienists' Association.



JANET R. BURNHAM

Mrs. Burnham will assume her new duties at Dalhousie University commencing July 1, 1961, and under her direction it is expected that there will be a further significant development in dental services for the Atlantic community.

New Appointment. — President A. E. Kerr of Dalhousie University recently announced the appointment of Ronald E. Jordan to the staff of the Faculty of Dentistry at Dalhousie, in the Department of Operative Dentistry.

Dr. Jordan was born in Regina, Saskatchewan, where he received his early education. In 1952 Dr. Jordan received his Bachelor of Arts degree with distinction from the University of Saskatchewan, and in 1954 his D.D.S. degree from the University of Alberta. During his undergraduate dental training, Dr. Jordan was the recipient of numerous prizes and awards with first class standing. Since graduating he has been in practice in Winnipeg, Manitoba, and recently was on the part-time staff of the Faculty of Dentistry at the University of Manitoba.

Dr. Jordan has been granted an immediate leave of absence to pursue graduate studies in restorative dentistry at the University of Washington, Seattle, and is expected to undertake his duties at Dalhousie for the 1962-63 session.



R. E. JORDAN

Through the Council on Research of the Canadian Dental Association, Dr. Jordan has been awarded a studentship to assist him in his further studies at the University of Washington.

UNIVERSITY OF MANITOBA

I.A.D.R. Annual Meeting. — Several staff members attended the annual meeting of the International Association for Dental Research in Boston, Massachusetts, March 23-26. I. Kleinberg presented a paper on "The effect of different area concentrations on plaque pH in vivo," and Z. Kasloff spoke on "Cracks in tooth structure associated with rotary cutting instruments."

Distinguished Visitors.—It is always a pleasure both to the staff and the students to welcome visitors from other parts of Canada, the United States and the United Kingdom to the school and show them the facilities that are available in the new dental building at Winnipeg.

A recent visitor from Toronto, Dr. G. Niki-foruk spoke about the research work he has been engaged upon for some years in the field of preventive dentistry. Dr. D. A. Kerr from Ann Arbor, Michigan, spoke on some aspects of oral pathology which have interested him. It is always a stimulating experience to the students to hear such men of distinction. Dr. Sprinz, reader in Dental Histology from Sheffield University, England, also visited the school during the winter term.

The school also received visits from the president and secretary of the Canadian Dental Association and from the chairman of the National Dental Examining Board of Canada. Each of these visitors addressed the student body. The school was also visited by the survey team of the C.D.A. Council on Education. Members of the team were Drs. A. C. Lewis, H. W. Reid and J. D. McLean.

Lectures and Courses. — Dr. H. W. Hart participated in a postgraduate course in partial denture prosthesis given at Dalhousie University, February 27-March 3. Dr. G. A. Brass visited Toronto to act as chairman of a teacher-training conference on operative dentistry sponsored by C.D.A. Council on Education. Dr. M. J. Averbach has given several lectures on periodontology since his return from Boston last year. He was also a guest speaker at the Winnipeg Dental Society and at the Alpha Omega Fraternity in both Winnipeg and Minneapolis.

UNIVERSITY OF TORONTO

Professor Baume Visits Faculty.—Professor L. J. Baume of the Institute of Dental Medicine, University of Geneva, Switzerland, and president of the Swiss Dental Society visited Toronto on April 6-7, 1961. He delivered a lecture on "Cephalofacial Growth Centres and Growth Sites Revealed by Experimental Biology" to the Toronto Section of the International Association for Dental Research.

National Research Council Grants — Grants amounting to \$20,275 have been awarded by the National Research Council to staff members of the Faculty in support of research ranging from histochemical investigation of cell cytoplasm to the relation of nutrition to morphology and caries susceptibility in the teeth of rats.

Recipients of the grants were D. L. Anderson, R. M. Grainger, A. M. Hunt, K. J. Paynter, H. G. Poyton and C. D. Torneck. One first-year, two second-year, and one third-year dental student will work on summer projects under the supervision of Drs. G. Nikiforuk, A. M. Hunt, K. J. Paynter and H. G. Poyton.

New Appointment. — J. A. Pedler, B.D.S., M.R.C.S., L.R.C.P., M.D.S., F.D.S., has been appointed professor and head of the Department of Oral Diagnosis. Dr. Pedler has been senior lecturer in Dental Histology and Pathology at the dental school of the London Hospital Medical College, University of London, England.

Recruitment of students. — Recruitment of students is a matter of vital concern to the Faculty. The following activities took place during the week of April 3-7, 1961.

(a) On Wednesday morning, April 5, a group of fifty high school students from the Hamilton and Burlington area visited the

dental building. This group was organized and sponsored by members of the Hamilton Dental Association who have been particularly active in the work of recruitment.

(b) The Dental Public Health Committee of the Ontario Dental Association organized a recruitment project following contact with Mr. F. Clute, director of Vocational Guidance for the province of Ontario. As a result of this effort, an invitation was issued to the Guidance Teachers Section of the Ontario Educational Association to visit the dental building during the Easter vacation.

Between sixty-five and seventy guidance teachers visited the building and viewed demonstrations by television and in several of the clinical areas. Special reference was made to the training of the dental hygienist.

(c) The visit to the dental building on April 6-7, of forty-three top grade students from the areas of five dental societies of eastern Ontario was a further project of the Dental Public Health Committee of the Ontario Dental Association. This followed several months of planning with the active co-operation of members of the following five societies: Renfrew County Dental Association, Rideau District, Brockville, Kingston and District and Bay of Quinte Dental Societies. Ninety-one students with academic records of around 70 per cent or better were invited by the local societies to individual dinner meetings in the five centres. These students had indicated interest in proceeding to university. Dr. S. A. MacGregor took one week out of his office to speak at these dinner meetings and in two instances spoke to a home and school association meeting where the students and dentists were invited following the dinner.

Within the next two weeks, a selections committee consisting of the principal and guidance teacher of the high school involved and the society's representative, provided the faculty with a list of qualified students who were interested to know more about dentistry as a career. Out of a total list of fifty-two students, forty-two acceptances were received in reply to the individual invitations of the Dental Public Health Committee. A chartered bus was arranged, and with the field-secretary as guide coming from and returning to Pembroke, the students were brought to Toronto. Three of these were young women.

Arriving at 3.30 P.M., a tour of most of the building followed. Arrangements were made with Mr. Silcox, undergraduate secretary, to see through Hart House prior to the dinner in the Great Hall. Following dinner, Toronto dentists, who volunteered to act as overnight hosts, took the students home in pairs.

The cost of the project was borne by the

Dental Public Health Committee of the Ontario Dental Association with some financial assistance from the Canadian Section of the American Dental Trades Association.

Royal Canadian Dental Corps

HEADQUARTERS NEWS

New Title. — The Minister of National Defence has granted authority for the appointment "Director General of Dental Services" to be redesignated "Director General of Dental Services for the Canadian Forces". The new title is intended to emphasize the tri-service character of the R.C.D.C. particularly when dealing with agencies outside the Department of National Defence.

Brigadier Baird attends R.C.D.S. Meeting.— Brigadier K. M. Baird, Director General of Dental Services for the Canadian Forces, visited Toronto on April 10 to attend the Workshop Conference on the Role of Auxiliary Personnel, sponsored by the Royal College of Dental Surgeons of Ontario.

PROMOTIONS, RETIREMENTS, POSTINGS

Captains Kelland and Hinch promoted. — Army Headquarters has announced the promotions of Captains A. L. Kelland and A. T. Hinch to the rank of Major on April 1 and May 16 respectively.

Major Kelland was born in North Sydney, N.S., and received his early education in Canso and Halifax. He attended St. Francis Xavier and Dalhousie Universities and holds the degrees B.A., B.Ed., and D.D.S. He enrolled in the Corps in September 1953 and

following graduation in 1954 was promoted Captain and posted to No. 12 Dental Company, Eastern Command. Major Kelland, at present serving a three-year tour in France accompanied by his wife and two children, will return to Canada this summer and be employed at HQ Central Command, Oakville, Ont.

Major Hinch was born in Halifax and attended Dalhousie University. Following graduation in 1947 he entered private practice in Fredericton until joining the Corps in January, 1956. Since that time he has been employed in No. 12 Dental Company, Eastern Command and is, at present, serving with No. 35 Field Dental Unit in France. Major Hinch is married with one child.

Major Ramsay retires. — Army Headquarters has announced that Major A. R. Ramsay, C.D., commenced retirement leave on May 15, 1961.

Major Ramsay is a native of Neepawa, Manitoba. He completed high school there in 1929 and took a two-year teaching course at Manitoba Normal School, graduating in 1931. During the Second World War he served with the R.C.A.F. from October 1940 to September 1945, at which time he entered McGill University and graduated with his D.D.S. in 1949. Following graduation he enrolled in the Corps and has served in Eastern and Quebec Commands in Canada as well as in Korea and at sea aboard H.M.C.S. Bonaventure. Prior to his retirement he was employed in Montreal where he resides with his wife and one child.

Captain Gaudet returns from Middle East.— Captain B. A. Gaudet returned to Canada in May following a one-year tour with the United Nations Forces in the Middle East. He has been posted for duty in Quebec City.

COURSE ATTENDANCES

The following officers have attended courses recently as indicated:

Major D. E. McDermott — Crown and Bridge Prosthodontics at the U.S. Navy Dental School, Bethesda, Maryland.

Captain J. T. Marshall — High-Speed Orientation at the U.S. Navy Dental School.



New R.C.D.C. Dental Clinic at RCAF Station, St. Hubert, Que.

Brigadier K. M. Baird cuts ribbon at the official opening in the presence of Group Captain W. B. Hodgson, Commanding Officer of the Station, Air-Commodore J. B. Harvey, Chief Staff Officer, Air Defence Command Headquarters, and Major E. D. Fraser, Senior Dental Officer at St. Hubert.

As may be seen from the other photographs, the new clinic is spacious and well equipped.



Public Health

DENTAL SUBJECTS FEATURED AT C.P.H.A. MEETING

Two public health dentists and one private practitioner participated on the program of the annual meeting of the Canadian Public Health Association at Regina, Saskatchewan, June 6-8.

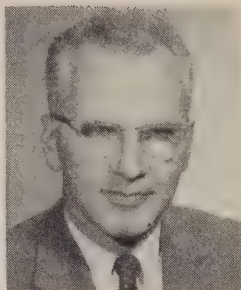
W. Zacherl, director of Dental Health, City of Edmonton Health Department spoke on "Surveys in Dental Public Health". D. J. Yeo, director of Dental Health Services, Metropolitan Health Committee, Vancouver, discussed "Treatment and Equipment in Dental Public Health". T. J. Cooke, a practising dentist in Winnipeg, reviewed "Preventive Measures in Dental Public Health Programs."

Another speaker was S. S. Steinberg, director of Public Education, American Cancer Society, who spoke on the "Use of Systemic Fluorides by American Dentists."

FLUORIDATION IN SASKATCHEWAN AND ONTARIO

The Melfort, Saskatchewan, town council at its March 6 meeting passed a by-law providing for fluoride adjustment to the town water supply. The necessary installation, costing \$1,200 will occur when water plant renovation is done this summer.

Fluoridation of Windsor's water supply was approved by the city council on April 10. The Windsor water commission also serves Sandwich East Township, Sandwich West Township and Ojibway.



R. E. FEASBY

NEW APPOINTMENTS

Dr. R. E. Feasby has been appointed as assistant director of Dental Services, Toronto Department of Public Health, effective May 1. He succeeds H. S. Grey who recently became director of Dental Services.

Dr. Feasby is a native of Collingwood, Ontario. He received his elementary and secondary education in Toronto. Following graduation from the Faculty of Dentistry, University of Toronto in 1940, Dr. Feasby served for three and a half years with the Canadian Dental Corps. There followed a period of nine years when he conducted a general practice in Simcoe, Ontario.

Following postgraduate training in dental public health at the University of Toronto, Dr. Feasby was appointed director of Dental Services in the Kingston, Ontario, Health Department in 1954, a position which he has held up to the time of his present appointment. He is a past-president of the Kingston and District Dental Society.

With his broad experience in private dental practice and public health administration, Dr. Feasby is warmly welcomed by the Toronto Department of Public Health and by the dental profession in the city.

DENTAL PUBLICATIONS OF CANADA

The "R.C.D.S. Newsletter" is published by the Royal College of Dental Surgeons of Ontario at 230 St. George Street, Toronto, Ontario. The "Newsletter" appears several times each year. Dr. W. J. Dunn is the editor.

BOOK REVIEWS

Textbook of Physiology

Prepared by: W. W. Tuttle and Byron A. Schottelius

Published by: The C. V. Mosby Co., St. Louis, 1961. Ed. 4.

Pages: 547. Illustrated. Price: \$7.00

At the death, in 1959, of Dr. W. D. Zoethout, at the age of eighty-eight, the famous textbook of physiology known as "Zoethout and Tuttle" had reached its thirteenth edition. The fourteenth edition has been written by W. W. Tuttle and B. A. Schottelius. The book is reset and well printed in a new format, easy to read and with many illustrations. The usual subjects of mammalian physiology are covered at a level suitable for the general college student.

J. Campbell

Ceramics

Prepared by: P. William Lee

Published by: Reinhold Publishing Corp., New York. 1961

Pages: 210. Illustrated. Price: \$5.95

This book is written primarily for the ceramic industry. It covers the various methods of manufacture and uses of the material in electronics, white wares, structural clay products etc.

It does, however, have one paragraph on dental procedure, which outlines the history, composition, methods of manufacture and fusing of porcelain teeth.

This chapter is interesting from the standpoint of general information of the porcelain tooth, but it is of little value to the dental practitioner from a clinical or practical standpoint.

J. M. Sheldon

THE LIBRARY

Additions

BERNIER, J. L. Tumors of the Odontogenic apparatus and jaws. Washington, Armed Forces Institute of Pathology, 1960. 107p. illus. \$1.50

BRITISH SOCIETY FOR THE STUDY OF ORTHODONTICS, Transactions. Bristol, John Wright & Sons Ltd., 1958. 180p. illus. \$7.00

- BOYD, W. Textbook of pathology; an introduction to medicine. 7th ed. Philadelphia, Lea & Febiger. 1961. 1370p. illus. \$18.00
- CANNELL, W. A. Medical and dental aspects of fluoridation. London, H. K. Lewis & Co. Ltd., 1960. 125p. \$2.95
- CATTONI, M. Diagnosis of pulpal and periapical pathosis. (Practical Dental Monographs, March 1961.) 47p. illus.
- DENTAL CLINICS OF NORTH AMERICA, March 1961. Symposium on practice administration. Allen O. Gruebbel, consulting editor. Philadelphia, Saunders, 228p. illus.
- HINE, M. K. Review of dentistry. 3rd ed. St. Louis, Mosby, 1961. 576p. \$9.00
- ONTARIO FLUORIDATION INVESTIGATING COMMITTEE. Report of the Committee appointed to inquire into and report upon the fluoridation of municipal water supplies, 1961. 177p.
- STOLZENBERG, J. Dental hypnosis handbook. Hollywood, Wilshire Book Co., 1961. 152p. illus. \$2.00
- TUTTLE, W. W. & SCHOTTELIUS, B. A. Textbook of physiology. 14th ed. St. Louis, Mosby, 1961. 546p. illus. \$7.00
- WORLD HEALTH ORGANIZATION. Technical report series No. 207. Periodontal disease. Report of an Expert Committee on Dental Health. Geneva, 1961. 42p. \$0.60

IN MEMORIAM

Earl Stanley Barker — Dr. Earl Stanley Barker of Stouffville, Ontario died on April 4, 1961. He was 82.

Dr. Barker was born in Stouffville in 1878. He attended Trinity College, Toronto and in 1900 he graduated from the Royal College of Dental Surgeons of Ontario. He set up practice in Stouffville.

He became an honorary member of the Royal College of Dental Surgeons of Ontario in 1950.

Surviving are his wife, Gertrude; and two daughters, Gertrude and Betty.

Robert Walter Clements — Dr. Robert Walter Clements of Watrous, Saskatchewan died on April 10. He was 64.

Dr. Clements was born in Wapella, Saskatchewan in October 1896 and received his early education at Esterhazy, Saskatchewan. He graduated from the Royal College of Dental Surgeons of Ontario in 1923.

He is survived by his wife, Lillian; two daughters, Jeannette and Joan; and two sons, Robert and Donald.

Victor LeRoy Heath — Dr. Victor LeRoy Heath of Woodstock, Ontario died on April 15. He was 85.

Born in Bloomsburg, Ontario, he received his early education in Brantford, Ontario. He graduated from the Royal College of Dental Surgeons of Ontario in 1904 and practised in Woodstock until his retirement in January 1947.

Dr. Heath was a past member of the Benevolent Fund Board and was also connected with the Ontario Hospital, Woodstock.

Dr. Heath is survived by a number of nieces and nephews.

Neil Smith — Dr. Neil Smith of Chatham, Ontario, died on April 29. He was 80.

He was born at Tilbury, Ontario in 1880 and graduated from the Royal College of Dental Surgeons of Ontario in 1905. Dr. Smith practised in Chatham for 54 years before retiring in 1959. He was former commanding officer of the Kent Regiment and was Lt. Colonel. During World War I he commanded the 186th Battalion and assisted

in the formation of his regiment. He was a past president of the Kent Dental Society and an honorary member of the Ontario Dental Association.

Morton Aylesworth McIntyre — Dr. Morton Aylesworth McIntyre of Edmonton, Alberta died on April 12. He was 73.

He was born and educated in Forest, Ontario. After working several years in Alberta he became a school teacher at Innisfail in 1907. In 1909 Dr. McIntyre returned east where he studied dentistry at the Royal

College of Dental Surgeons of Ontario, graduating in 1912. He set up practice in British Columbia and moved to Edmonton the following year.

During the first world war Dr. McIntyre joined the 27th Ontario Battalion, being transferred later to the Canadian Dental Corps, and during the second world war he served with the Canadian Dental Corps at 3 RCAF Manning Depot. He was a past president of the Edmonton Dental Society.

He is survived by his widow Olive; one daughter, Mrs. D. E. Florence; one son, Donald F.; a sister, Mrs. E. Dallas; a brother, D. Bence; and six grandchildren.

Atlantic Provinces Dental Convention Charlottetown, Prince Edward Island, July 2-5, 1961

Dr. S. A. MacGregor	Toronto	Paedodontics
Captain A. R. Frechette	U.S. Naval Dental Corps	Prosthodontics
Dr. J. J. McCarthy	Montreal	Oral Surgery
Dr. R. H. Bingham	Halifax	Oral Diagnosis
Dr. B. R. Ross	Toronto	Orthodontics
Dr. J. J. MacConnachie	Halifax	Operative Dentistry

Table Clinics — Golf — Social Events

ANNOUNCEMENTS

Conventions of the Canadian Dental Association

1961	Saskatoon, Saskatchewan	June 4th-7th
1962	Vancouver, British Columbia	June 3rd-6th
1963	Toronto, Ontario	May 19th-22nd
1964	Edmonton, Alberta	June 28th-July 1st
1965	Quebec City, Quebec	May 30th-June 2nd

1967	Toronto, Ontario (Centennial Celebration of Dentistry in Canada)	May
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FUTURE EVENTS

Date	Function	Location	Officer	Address
June 1-4, 1961	Swiss Dental Society Jubilee Congress	Basle, Switzerland	Dr. H. Michel,	Eisengasse 8, Basle, Switzerland
June 18-23, 1961	British Dental Association	Harrogate, England	Mr. J. Peacock,	13 Hill St., London W.1., England
July 2-5, 1961	Atlantic Provinces Dental Convention	Charlottetown, P.E.I.	Dr. L. I. Duffy,	302 Queen St., Charlottetown, P.E.I.
July 9-15, 1961	Fédération Dentaire Internationale	Helsinki, Finland	Dr. G. H. Leatherman,	35 Devonshire Place, London W.1., England
Aug. 14-18, 1961	16th Australian Dental Congress	Sydney, Australia	Mr. D. Freeman,	T. & G. Bldg., Park St., Sidney, Australia
Sept. 8-10, 1961	Northern Ontario Dental Association	The Armoury, Sault Ste. Marie, Ont.	Dr. T. G. White,	519 Queen St. East, Sault Ste. Marie, Ont.
Sept. 12-15, 1961	2nd Intl. Czechoslovak Stomatol. Congress	Marienbad, Czechoslovakia	Dr. F. Urban,	Karlovo nam. 32, Prague 2, Czechoslovakia
Sept. 17-19, 1961	Eastern Ontario Dental Association	Chateau Laurier Hotel, Ottawa	Dr. H. B. Squires,	142 Laurier Ave. West, Ottawa, Ont.
Oct. 13-15, 1961	German Dental Association	Mainz, West Germany	Dr. P. Jaeger,	Nikolaistrasse 2, Munich 23, W. Germany
Oct. 16-19, 1961	American Dental Association	Philadelphia, Pennsylvania	Dr. G. N. Casto, Jr.,	222 East Superior St., Chicago 11, Illinois
Oct. 23-25, 1961	Montreal Dental Club Annual Fall Clinic	Queen Elizabeth Hotel, Montreal	Dr. J. Vincelli,	6542 Somerled Ave., Montreal, P.Q.
Nov. 12-19, 1961	Uruguay-Argentine Intl. Dental Congress	Montevideo, Uruguay	Dr. J. C. Turrell,	Av. Agraciada 1464, (P. 13) Montevideo, Uruguay.
Nov. 20-26, 1961	Congrès de l'Entente Odontologique	Porte de Versailles, France	Dr. J. L. Dephilippe,	39 Blvd. Malesherbes, Paris 8e, France
Dec. 27-31, 1961	Alpha Omega Fraternity	Queen Elizabeth Hotel, Montreal	Dr. F. Vosburg,	5292 Queen Mary Road, Montreal, Que.

POSTGRADUATE AND REFRESHER COURSES (U. S.)

YESHIVA—October 30-November 3, 1961—Clinical Periodontics.

Other information concerning dental meetings outside Canada is available at C.D.A. Headquarters upon request.

L'Association Dentaire Canadienne.

JOURNAL

Volume 27

Numéro 6

juin 1961

Prise de conscience de la situation dentaire au Québec*

RÉPERCUSSION DE L'ENQUÊTE AMÉRICAINE SUR LES MESURES QUI
S'IMPOSENT DANS L'INTÉRÊT DE NOTRE POPULATION

(suite)

L'enseignement

JEAN-PAUL LUSSIER, Montréal, P. Québec

Introduction

Aujourd'hui, l'enseignement dentaire relève exclusivement des facultés de chirurgie dentaire. C'est-à-dire d'institutions qui sont parties intégrantes d'universités plutôt que de dépendre de l'initiative privée, comme ceci existait il y a 30 ou 40 ans, en Amérique, ou comme cela existe encore dans plusieurs pays

d'Europe. Les facultés de chirurgie dentaire se retrouvent dans des universités publiques: c'est le cas des universités d'Alberta et du Manitoba, au Canada, ou d'universités privées comme Dalhousie, à Halifax, ou encore d'universités semi-publiques, comme c'est le cas de Montréal et de Toronto.

Comme il y a 47 facultés dentaires aux Etats-Unis et 6 au Canada, distribuées

sur une étendue de plus de dix millions de milles carrés, il faut donc, de temps à autre, s'enquérir de ce qu'elles font, de ce qu'elles deviennent et où elles vont.

Je vous ferai remarquer que, pris individuellement, chaque doyen est ordinairement assez intelligent pour savoir ce qu'il a à faire, ce qui se passe chez lui et ce dont il a besoin pour réussir au mieux avec son institution. Il arrive souvent que, lorsqu'il exprime avec trop d'insistance les besoins de son institution, certains peuvent croire qu'il se prend trop au sérieux ou encore qu'il demande la lune!

Mais quand une Commission d'enquêteurs rapporte que la moitié ou plus des doyens d'un type de faculté revendique la même chose, à partir de ce moment, ça prend l'importance d'une crise nationale et tout le monde s'accorde à vouloir corriger la situation.

Pour vous montrer comment les problèmes se ressemblent en dépit de la latitude ou de la longitude, je vous cite les opinions exprimées par les doyens sur la nature et le caractère des difficultés qu'ils rencontrent. Ainsi 83% ont rendu des réponses affirmatives pour insister que les fonds soient augmentés dans les facultés de chirurgie dentaire; 55% ont besoin de plus d'espace pour donner l'enseignement qu'il faut; 53% demandent de meilleurs salaires pour leurs professeurs; 45% ont besoin de plus de professeurs et 25% veulent en avoir de meilleurs; 35% désirent obtenir de meilleurs étudiants et 45% se plaignent que, dans leur institution, les conditions ne sont pas favorables à la recherche.

Les recommandations que nous allons commenter originent des enquêtes faites auprès des doyens, des professeurs et des élèves des facultés de chirurgie dentaire. Mais comme d'autres désirs et d'autres interprétations ont aussi été exprimés, qui sont venus tantôt renforcer, tantôt affaiblir les données en provenance des facultés, il a fallu en tenir compte. Des déclarations sont venues des présidents d'universités, des directeurs de conseil

d'enseignement et des registraires de collèges de chirurgiens-dentistes; il s'en suit que l'expression finale des recommandations que nous allons rapporter reflète toute cette mosaïque d'opinions.

Je vous propose donc de prendre connaissance des plus importantes recommandations de la Commission d'enquête en matière d'enseignement dentaire et d'examiner dans quelles mesures elles s'appliquent à notre milieu.

Plus de dentistes

Devant la vague grandissante des soins dentaires à prodiguer par la profession au bénéfice de la population, on cherche par tous les moyens à augmenter le nombre des dentistes praticiens aux Etats-Unis, où la proportion est de un dentiste par 2,000 de population. Au Québec, la proportion devient un dentiste par 3,500 habitants; ceci va s'aggravant d'année en année, puisque la population suit un taux d'accroissement que la profession dentaire ne peut pas concurrencer.

A ce propos, la Commission recommande de mettre en vigueur une campagne nationale de recrutement pour attirer les meilleurs étudiants, hommes ou femmes, vers l'étude de la chirurgie dentaire. Un tel programme patronné par l'Association des écoles dentaires américaines devra inclure un système de bourses et de prêts basé sur les besoins et les mérites des étudiants. Ce programme viendrait compléter ce qui peut exister déjà à l'usage des écoles dentaires, mais, en plus, il devrait s'élargir pour mieux comprendre dans son organisation ce qu'il faut pour attirer les candidats à l'étude de l'hygiène dentaire et des autres services auxiliaires que la profession entend créer et utiliser.

Comment cette recommandation s'applique-t-elle chez-nous? Sans aucune restriction. Sauf qu'il faudra la pousser à sa limite, tout intensifier, bourses, indemnités, bénéfices de toutes sortes, etc. et se montrer très généreux pour attirer tous ceux dont la profession a grand besoin.

A partir d'ici, se pose, en plus, le problème de la qualité des candidats.

De meilleurs élèves

Depuis quelques années déjà, les écoles dentaires se plaignent que la qualité des candidats à l'étude de la chirurgie dentaire se détériore quelque peu; que, pour remplir autant que possible leurs cadres, elles doivent se contenter d'élèves qui ne rencontrent pas les standards que l'on est en droit d'exiger. Il leur reste toujours la possibilité de s'en tenir à la qualité sans remplir les cadres. Notre faculté, alertée il y a une dizaine d'années par des différences inquiétantes entre ses élèves et ceux d'autres facultés, a décidé de prendre les moyens de corriger cette situation. Les postulants durent prouver qu'ils étaient capables de plus d'effort que de produire un parchemin mollement acquis. C'était se faire violence, car en agissant ainsi, la faculté amputait du contingent des postulants la fraction imposante des médiocres. L'inscription tomba à moins de 20 par année, ce qui équivalait à 30% des inscriptions précédentes.

Depuis, elle a connu un retour à des effectifs plus satisfaisants. Mais tout dernièrement, il y eut rechute dans le taux d'inscription, non seulement parce que le nombre des postulants a faibli, mais parce que trop d'entre eux, encore mal préparés, ont frappé à la porte avant d'avoir revêtu la robe nuptiale! Nous comprenons très bien que la Commission recommande que les standards d'admission dans les écoles dentaires soient révisés dans le but d'améliorer la qualité des étudiants qui y seront admis. Il se peut que cette recommandation s'adresse moins à nous qui avons déjà songé à remédier à ce problème. Elle nous confirme dans notre politique et nous assure que nous sommes dans la bonne orientation. Même après tout ça il y a de la place pour mieux. Si avant même d'entrer à la Faculté, l'élève cause des soucis, il peut s'en causer lui-même en entrant en clientèle par inaptitude dans l'administration de ses affaires.

Accent sur l'administration dentaire

A la suite des suggestions venant des professeurs comme des élèves, des nouveaux gradués comme des anciens, on a vite reconnu que l'on avait négligé, dans la formation du dentiste, l'aspect de l'administrateur et que pour cette raison, une place prépondérante devra être accordée à l'organisation des cliniques privées, à l'utilisation des services auxiliaires et à une plus grande expérience du milieu hospitalier. Ces besoins, on les a exprimés avec insistance et avec raison; c'est pourquoi la Commission nous dit: "Les écoles dentaires devront offrir aux étudiants plus de connaissances en matière d'organisation et d'administration d'un cabinet dentaire. Elles auront recours aux affiliations avec les hôpitaux et leurs étudiants acquerront l'expérience voulue pour s'intégrer efficacement au milieu hospitalier. Enfin, les écoles dentaires devront fournir à leurs étudiants plus d'occasions de travailler en compagnie d'un personnel auxiliaire bien formé, qu'il s'agisse d'hygiénistes, d'assistantes ou de techniciens. C'est ainsi que les étudiants pourront mieux comprendre l'importance des services d'un tel personnel dans la pratique de la chirurgie dentaire."

Ici la recommandation nous touche en plein mal. Tout est à faire ou presque en ce domaine en notre province. De fait, l'instruction hospitalière à nos étudiants fait défaut. Il existe trop peu de services dentaires dans les hôpitaux du Québec, à l'exception de certaines institutions anglo-saxonnes. Les seuls internats accrédités dans la province de Québec sont ceux qui sont offerts dans les hôpitaux affiliés à l'Université McGill.

En ce qui concerne les services auxiliaires, nous sommes devant le problème des fonctions à déterminer et de l'enseignement à assurer. Jusqu'à présent, les dentistes de la province de Québec n'ont eu d'aide que de leurs assistants et leurs techniciens. Vont-ils à l'instar de leurs confrères de l'Ouest, abandonner certaines prérogatives aux mains d'auxiliaires dû-

ment entraînés? Dans ce cas, qui se chargera de l'enseignement? Le Collège professionnel? L'Université? Les écoles techniques? Il semble que pour ces fins, on ne doit pas s'appuyer trop lourdement sur les universités. Si la profession décide d'innover dans ce sens, elle trouvera peut-être avantage à consulter les universités sur les politiques qu'elles entendent maintenir en matière d'enseignement technique.

Corps enseignant

La Commission d'enquête sur la profession dentaire des Etats-Unis a fait des remarques au sujet des élèves. Elle en a fait également au sujet des professeurs. Si elle préconise plus d'accent sur la qualité des élèves, elle le fait également au sujet des professeurs. Au cours de ses observations, la Commission a noté:

1. Que 26% seulement des professeurs des facultés de chirurgie dentaire y sont employés à plein-temps.

2. Que ces professeurs à plein-temps passent plus de 60% des heures régulières de travail à faire de l'enseignement direct, de l'enseignement en tête-à-tête.

3. Que parmi les professeurs à temps partiel, 80% d'entre eux ne font que de l'enseignement en tête-à-tête.

Les enquêteurs se plaignent qu'il n'y a pas suffisamment de professeurs sur les rangs, surtout qu'il y a trop peu de jeunes professeurs pour prendre la relève. Ils ont également noté, et ceci est très déconcertant, que 6% seulement des professeurs à temps partiel considèrent l'enseignement universitaire comme leur carrière véritable. Une autre constatation assez déplorable est celle que seulement 15% des professeurs de chirurgie dentaire ont accédé au degré supérieur de maîtrise et 5% à celui du doctorat en sciences. Devant un état de chose aussi défavorable, la Commission recommande "que les écoles dentaires, pour améliorer l'enseignement:

1. augmentent le nombre des professeurs,

2. élèvent les exigences requises à l'endroit de tout nouveau professeur,

3. augmentent le rendement des professeurs actuels,

4. emploient plus de professeurs à plein-temps.

La situation à notre Faculté ne se distingue pas particulièrement du tableau que nous venons de décrire. Chez nous aussi, les professeurs sont surchargés, chez nous aussi, certains n'ont pas reçu l'entraînement qu'ils auraient dû recevoir. Nous aussi, nous désirons plus de professeurs à plein temps et nous devons admettre que les conditions de travail et de développement pour eux ne sont pas des plus accueillantes.

Toutefois, la réjuvenation de notre corps professoral à la Faculté de chirurgie dentaire reste fonction des conditions générales du corps professoral de toute l'Université, sans oublier que le recrutement des professeurs en chirurgie dentaire implique des difficultés toutes spéciales. Si, comme nous l'avons fait remarquer tout à l'heure, la profession a besoin de meilleurs hommes, l'Université a besoin des meilleurs parmi les meilleurs. Nous sommes à élaborer des plans, qui nous l'espérons, vont garantir un apport constant et excellent de sujets propres à l'enseignement. Mais ce n'est pas une entreprise à rendement immédiat.

Relations professeurs-étudiants

Si les commissaires ont mis beaucoup d'attention à examiner la situation des facultés et de leur personnel enseignant, ils n'ont pas pour cela négligé de questionner les étudiants. Si j'en juge par le volumineux questionnaire qui a été distribué à ceux de notre Faculté, il y a deux ans, ils ont fait l'objet d'une enquête très sérieuse. Ce questionnaire a permis d'exprimer des plaintes, des désirs, des déceptions de toutes sortes, comme les étudiants sont en droit de le faire. En plus, ils ont été presque unanimes à demander plus d'attention, plus de conseils de la part du corps professoral des facultés de chirurgie dentaire.

S'il est vrai que le professeur a besoin de connaître les habitudes de travail et la motivation de l'étudiant, autant l'étudiant a besoin d'être guidé dans la marche de son travail, d'être évalué souvent comme d'être éclairé sur des problèmes de divers ordres qui originent de sa situation familiale, de ses difficultés financières ou tout simplement de sa personnalité. Il y a là une responsabilité que le corps professoral se doit en effet de rendre et c'est la raison pour laquelle la recommandation de la Commission s'exprime ainsi: "Que les facultés développent et améliorent les moyens dont disposent les étudiants en matière de direction au cours de leurs études de chirurgie dentaire." Cette recommandation ne nous étonne pas. Le besoin s'est fait sentir chez nous depuis quelque temps et des mesures ont déjà été prises pour apporter quelque soulagement aux inquiétudes de nos étudiants. Chez nous, les professeurs se font forts de se montrer cordiaux, parfois même familiers. Cette attitude, toutefois, n'éveille pas toujours la même sympathie, la même confiance ou encore le même intérêt qui devraient faire rechercher davantage les contacts avec les professeurs. Avec le placet de la faculté, le Comité de régie cette année a pris l'initiative d'assurer des rencontres entre les étudiants en groupe et les professeurs en groupe. Nous attendons que le cycle de ces rencontres soit terminé pour en connaître les fruits et faire les corrections qui vont sûrement s'imposer. Il s'agit d'un début, mais d'un bon début, je crois. Cet esprit d'équipe, qui doit régner entre les élèves et les professeurs, va donc finalement s'installer grâce à l'initiative des élèves et à l'encouragement des professeurs. Les uns comme les autres reconnaissent le besoin sérieux qu'ont les élèves d'être suivis depuis le début de leur cours et d'être encouragés à prendre toutes les initiatives qui peuvent les confirmer davantage dans le développement de leur personnalité. Du côté strictement professionnel, il y a tellement d'intérêt pour un jeune homme à connaître au plus tôt s'il va devenir

praticien général ou spécialiste et dans quelle spécialité il s'engagera. Trouvera-t-il un avenir attrayant dans l'enseignement, la recherche ou même le fonctionarisme qui va se développer davantage à la faveur des mesures sociales qui s'introduisent de plus en plus? Le souci de servir les étudiants, les professeurs en sont conscients. Il faut continuer à matérialiser ce potentiel. Du côté des professeurs comme des étudiants, il y a déjà des efforts louables. Il s'agit de persister.

Soutien financier accru

L'argent est le nerf de la guerre. Il est également celui qui permet au milieu universitaire de maintenir son tonus. Or l'apport financier a été dans la plupart des cas insuffisant et l'élément qui en a souffert le plus est sûrement le corps professoral. De fait, les commissaires se sont rendu compte que les professeurs des facultés de chirurgie dentaire étaient rémunérés seulement au 2/3 de ce que leurs confrères en clientèle gagnent en moyenne. Non seulement cette situation a été défavorable au recrutement des professeurs, mais encore elle a nui énormément au prestige des professeurs évoluant dans une civilisation où la marque de l'automobile et les dimensions de la résidence impressionnent souvent plus que le rendement intellectuel!

On ne se rappelle pas assez que l'enseignement et la recherche dentaires profitent à la population toute entière et, pour cette raison, se méritent un appui général. On ne se rend pas compte également que les écoles dentaires sont les institutions les plus dispendieuses à maintenir sur un campus. Il faut donc leur garantir un apport financier très substantiel et, si nécessaire, solliciter diverses sources comme:

1. les anciens diplômés des écoles dentaires;
2. les bienfaiteurs des universités;
3. les maisons d'affaires;

4. les fondations éducationnelles et philanthropiques;

5. l'Etat.

Enfin, la Commission recommande que les universités accordent aux écoles dentaires la part qui leur revient dans le budget des universités, compte-tenu du coût et de la valeur de l'enseignement qu'elles s'engagent à donner.

Dans le cas de notre Faculté, la question des salaires s'est améliorée sensiblement ces derniers temps, même il reste encore des étapes à franchir. L'adoption d'une échelle de salaire pour le corps professoral de l'Université de Montréal a eu d'heureuses répercussions dans toutes les facultés.

La considération dont la Faculté a été l'objet de la part des autorités de l'Université ne s'est jamais démentie. Mais il faudra bien reconnaître que, pas plus que les autres facultés, la Faculté de chirurgie dentaire n'a obtenu tout ce qu'il lui fallait pour remplir son rôle véritable.

Les anciens ont versé très peu à l'endroit de leur Alma Mater. Les bienfaiteurs sont presque inconnus, les maisons d'affaires sont encore attendues, les fondations n'ont jamais considéré le point de vue dentaire comme étant de leur ressort et finalement l'Etat, en contribuant à l'Université, laisse à celle-ci le soin de faire la distribution. De ce côté, il y a donc toute une campagne à organiser, toute une sympathie à éveiller dans un certain public, notamment chez nos propres diplômés.

L'accessibilité grandissante à l'endroit des soins médicaux et hospitaliers a eu forcément des répercussions dans le champ des soins dentaires. On songe à augmenter les cliniques publiques, à pourvoir les hôpitaux de cliniques dentaires. Plusieurs compagnies importantes désirent s'approprier les soins d'un dentiste en particulier, sans compter que l'éducation qui se fait dans le peuple, augmente constamment aux yeux des parents l'importance des soins dentaires, sinon pour eux, du moins pour leurs enfants. Tout ceci se

traduit par une demande plus grande de dentistes, par une contrainte plus grande sur les écoles dentaires et par une obligation d'augmenter proportionnellement le personnel. La Commission recommande que les écoles actuelles soient agrandies et bien pourvues et qu'ensuite d'autres écoles soient créées pour qu'on puisse y former autant de dentistes que possible ainsi que le personnel auxiliaire nécessaire. Avec la restriction toutefois que les nouvelles institutions ne démarrent qu'en possession d'un personnel suffisant et compétent.

On ne peut rapporter toutes ces recommandations sans mettre en évidence les vœux des principaux enquêteurs. A ce propos, je me permets de citer le docteur Mann, commissaire en charge de la section de l'enseignement dentaire, qui se fait l'interprète de toute sa section:

"Les dentistes américains, dit-il, et les institutions où ils sont formés, manquent de cette conception où s'intègrent les sciences biologiques dans le cadre de l'exercice de leur profession. Qu'une telle conception se développe et aussitôt il en résultera une amélioration des soins dentaires dans toute la nation, car les dentistes praticiens trouveront là une inspiration nouvelle dans leur travail. Pour le moment, ce qu'ils font n'est trop souvent que la répétition sans fin d'un rituel impuissant à enrayer les ravages causés par la carie dentaire ou les maladies des gencives. Quelle fierté trouvera alors l'étudiant dans l'étude de la chirurgie dentaire, si cette conception pénètre chacune des phases de sa formation professionnelle."

En conclusion

L'enquête a eu cet avantage de faire remarquer aux écoles dentaires qu'elles doivent être plus conscientes de leur présence dans le milieu universitaire et de leur obligation à développer véritablement leur propre discipline universitaire. En devenant une discipline universitaire, la chirurgie dentaire cesse d'être une série de techniques juxtaposées au bénéfice d'un groupe exclusif de la population pour s'adonner à l'accroissement des connaissances, à leur développement selon une coordination soignée et à leur mise en

disponibilité aux esprits éveillés. Ce qui sera de nature à assurer au public des services aussi généralisés qu'évolués. Pour cela, il aura fallu que la recherche devienne partie intégrante de l'enseignement dentaire en s'instituant à sa base et en poussant, par des acquisitions substantielles et répétées, des prolongements dans tous les secteurs de la pratique de la chirurgie dentaire.

SUMMARY: DENTAL EDUCATION

Dental education has a great part to

play to improve the status of dentistry. To improve dental teaching in universities more funds are requested for physical development, for salaries for the teaching staff, for bursaries and scholarships for a greater number of students and hygienists and for more full-time dental teachers. A better quality of students is requested and the curricula must be changed and adapted to the current social trends. Relations between teaching staff and dental students should be developed.

Les recherches dentaires

ZDENEK MÉZL, Montréal. P. Québec

Il n'y a pas assez de dentistes pour traiter la population. On s'efforce d'augmenter le nombre de dentistes, d'accroître leur rendement et de diminuer le nombre des maladies par la prévention.

Tout cela ne suffit même pas à satisfaire les besoins actuels. Par ailleurs, le volume des maladies, le nombre des citoyens de notre pays, les besoins et les exigences du public augmentent. Le nombre restreint des dentistes en rapport avec le chiffre de la population créera bientôt une situation critique.

En face d'une situation insoluble par les moyens dont nous disposons, on cherche des moyens extraordinaires.

Il nous faut des idées radicalement nouvelles. Il n'y aurait plus de problème, si une découverte nous permettait de traiter les caries en masse par une mesure simple, comme, par exemple, des comprimés ou un vaccin.

Le problème pratique le plus grave se situe dans la carie et les maladies du périodonte et les recherches dans ces domaines sont les plus urgentes. Les recherches purement théoriques dans les sciences de base semblent peut-être moins importantes, mais on ne peut pas s'at-

taquer aux problèmes pratiques sans certaines connaissances théoriques.

Les recherches suscitent des espoirs, mais elles n'offrent pas une solution immédiate à nos problèmes. Nous pouvons calculer le nombre des caries et celui des dentistes de 1970, mais nous ne pouvons pas prévoir si le fraissage des dents disparaîtra en 1970 ou en 1990.

Mais nous pouvons nous attendre à ce que les résultats des recherches dentaires modifient un jour radicalement les techniques de la dentisterie et c'est pourquoi on recommande d'intensifier les recherches dans la limite du possible.

Alors, que fait-on dans ce domaine et que se propose-t-on pour l'avenir?

Pour faire des recherches, il faut des moyens, des individus, des idées: Les moyens essentiels sont:

1. les locaux, les fournitures et les services élémentaires;
2. le temps accordé aux chercheurs;
3. Il faut des fonds pour les instruments, les matériaux et les travaux auxiliaires.

Les moyens nécessaires pour les travaux de recherches, au Canada, proviennent des

universités et du Conseil National des Recherches.

Les universités

Les universités fournissent les locaux, l'équipement, le matériel clinique et de nombreux services. La grande majorité des chercheurs sont des membres du personnel enseignant, c'est-à-dire que les universités contribuent aux recherches par l'effort et le temps de leur personnel ou bien par une partie des salaires universitaires.

Il y a cinq ans, une portion considérable des salaires des chercheurs employés aux universités était payée par des octrois du Conseil National des Recherches. A présent, tous les salaires sont payés par les universités. Ceci manifeste clairement que la profession et les facultés comprennent bien leurs devoir envers la santé publique.

Les délibérations de l'Association américaine des écoles dentaires montrent que les dépenses indirectes des recherches dentaires dépassent considérablement les allocations payées directement par les octrois.

Il est difficile d'évaluer les dépenses indirectes en chiffres, mais, sans cette contribution des universités, il y aurait peu de recherches dentaires au Canada.

Le Conseil National des Recherches du Canada

Le Conseil National des Recherches du Canada contribue par des octrois et des bourses d'étude aux projets individuels, spécifiques, quand ils sont approuvés.

En 1960, le comité pour les recherches dentaires a alloué \$100,000. Environ un tiers de cette somme était consacré à des travaux faits dans la province de Québec.

D'après le rapport de la Commission d'enquête sur la dentisterie aux Etats-Unis, on a consacré aux recherches dentaires en 1958, 10,000,000 de dollars dont un peu moins de la moitié provenait du gouvernement, surtout du National Institute of Dental Research et le reste de l'industrie et de la philanthropie.

La contribution annuelle augmente

régulièrement depuis les derniers 30 ans. Mais la somme de \$10,000,000 n'est pas encore satisfaisante: elle n'est qu'un cinquième de la somme dépensée pour toutes les recherches dans le domaine de la santé, tandis que la somme dépensée par an pour les traitements dentaires (\$2,000,000,000) est un dixième de la somme dépensée pour les soins sanitaires (\$20,000,000,000).

Si nous comparons le nombre de la population et des caries chez nous à celle des Etats-Unis, il semble que le budget du comité des recherches dentaires du Conseil National des Recherches du Canada devrait être augmenté.

Il faut constater qu'il augmente progressivement: les allocations du Conseil National des Recherches

en 1954 étaient: \$ 30,000

en 1959 " : \$ 76,000

en 1960 " : \$100,000

et \$200,000 ont été alloués pour 1961.

L'Association dentaire canadienne a alloué aux recherches dentaires, en 1960, \$8,000 pour les bourses d'étudiants. Environ 1/5 de cette somme allait à la province de Québec.

Il faut mentionner les activités des unités sanitaires et du Corps Dentaire Royal Canadien qui sont engagés surtout dans les recherches cliniques appliquées.

Après avoir étudié la situation dans la province de Québec et après avoir considéré les rapports de la Commission d'enquête sur la dentisterie aux Etats-Unis, nous recommandons que le support financier pour les recherches dentaires soit augmenté.

A côté du gouvernement, des universités et des dentistes, des fonds venant d'autres sources devraient contribuer aux recherches dentaires: de la philanthropie, des industries, des corporations et des individus.

La commission américaine recommande qu'une agence indépendante soit établie pour chercher et distribuer des fonds pour les recherches dentaires.

Il existe aux Etats-Unis un organisme qui aide l'éducation dentaire, The Fund

for Dental Education. Cette organisation contribue environ \$70,000, par année, à cette oeuvre et ces argents proviennent de sources variées.

Peut-être pourrions-nous *stimuler* des *activités* de ce genre aussi chez nous. Nous avons des sociétés pour le cancer, pour la poliomyélite, pour le rhumatisme, pour la santé mentale, nous pourrions avoir la Société pour la Santé Dentaire.

Il faut augmenter le nombre de personnes engagées dans les recherches en proportion des fonds qui doivent être augmentés. Les statistiques récentes de l'Association dentaire canadienne montrent que 28 chercheurs travaillent dans les écoles dentaires canadiennes, dont 6 au Québec.

En réalité, il y en a plus que cela: des étudiants postgradués se préparent aux recherches, des Canadiens travaillent à l'étranger, des recherches dentaires sont faites dans d'autres facultés et l'Université du Manitoba n'est pas encore incluse dans ces statistiques.

Mais tout de même, cet effort n'est pas encore satisfaisant, vu l'importance de nos problèmes.

D'après l'enquête américaine, en 1958, 878 chercheurs travaillaient dans 47 écoles dentaires. A présent, quelque 600 étudiants américains poursuivent un entraînement gradué. La commission calcule que de ceux-ci environ 200 candidats par an pourraient, à l'avenir, se destiner aux recherches dentaires. A l'heure actuelle, environ 100 gradués par année font une carrière de recherches dentaires.

Une réunion récente des directeurs de recherches des écoles dentaires américaines a déclaré, d'accord avec la Commission d'enquête, qu'on devrait multiplier environ 6 fois le nombre des gradués qui se destinent aux recherches chaque année.

La Commission recommande que les universités permettent au personnel des écoles dentaires de consacrer plus de temps aux travaux scientifiques et qu'elles stimulent et élargissent les activités dans les recherches dentaires.

Il faut former un corps plus grand de scientifiques.

1. Il faut recruter et choisir des jeunes gens doués pour la recherche. Pour les choisir, il faut généralement approfondir l'enseignement des sciences et stimuler l'intérêt des étudiants en chirurgie dentaire.

2. Il faut entraîner de jeunes dentistes sérieux dans les techniques scientifiques de recherches.

Il existe des programmes bien organisés pour la préparation des candidats aux recherches. Il y a des bourses d'études (fellowships post-gradués) dont la plupart, quelques centaines aux Etats-Unis, portent surtout sur les recherches. En 1960, le Conseil National des Recherches du Canada a alloué \$27,500 pour 7 bourses d'études.

Il y a des bourses pour les étudiants qui participent à des travaux de recherches pendant leurs études. Il y en a presque 400 aux Etats-Unis. Le Conseil National des Recherches, en 1960, a alloué 5 bourses, soit \$4,335. L'Association dentaire canadienne a alloué 7 bourses, soit \$8,075. Il existe des programmes d'honneurs allouant des crédits particuliers aux étudiants qui participent à des recherches.

A notre université, nous avons intéressé les étudiants aux recherches avant que la Commission d'enquête des Etats-Unis fasse des recommandations semblables. Nous stimulons l'intérêt des étudiants par les cours, séminars et discussions sur les recherches. Nous avons des laboratoires de recherches où les étudiants intéressés travaillent pendant les vacances et durant leur temps libre au cours de l'année scolaire. Nous avons des jeunes gens intéressés et intelligents.

Mais nous avons peu à leur offrir, sauf notre support moral. Nous recommandons que des fonds considérables soient consacrés à l'éducation d'une génération de scientifiques compétents dans les domaines dentaires.

Le développement des activités et de l'enseignement scientifiques dans les

écoles dentaires offrira automatiquement des carrières attrayantes dans l'enseignement et dans les recherches. *Les facultés dentaires devraient avoir des départements de recherches:*

1. pour faire des travaux de recherche;
2. pour travailler avec les cliniques et stimuler les étudiants;
3. pour donner l'enseignement post-gradué aux candidats en recherches.

La condition la plus importante pour les recherches est une fantaisie scientifique appropriée qui crée des idées originales. Les idées ne résultent pas automatiquement des fonds, mais tout de même, si un groupe de personnes compétentes peut se consacrer entièrement aux recherches, il est plus probable que les idées nouvelles vont jaillir.

A la fin du rapport sur les recherches, la Commission d'enquête sur la dentisterie aux Etats-Unis présente encore trois suggestions:

La Commission recommande d'étudier l'aspect sociologique et économique des problèmes de la santé dentaire. Il y a des raisons économiques, sociologiques et psychologiques pour lesquelles certains groupes souffrent plus de carie que les autres et pourquoi certaines personnes ne reçoivent pas ou ne désirent pas les traitements. L'étude de ces problèmes du point de vue des sciences sociales pourrait peut-être nous permettre de mieux organiser la prévention. Ceci est un domaine où on a peu travaillé et nous pourrions augmenter notre effort et intéresser les spécialistes compétents des autres facultés ou former nous-mêmes des dentistes qualifiés dans ce domaine sociologique.

Les recherches sur les produits pharmaceutiques et sur les matériaux dentaires sont bien organisées et supportées par les industries intéressées et par le National Bureau of Standards des Etats-Unis. Cet effort doit augmenter en proportion avec des produits nouveaux.

La dernière recommandation de la Commission suggère d'accélérer la communication des résultats de recherches. Cette suggestion a le désavantage de peut-être stimuler des publications trop précoces.

En conclusion:

Les recherches doivent radicalement changer la dentisterie dans un avenir prochain.

Nos dentistes travaillent dans les recherches autant que c'est possible dans les circonstances présentes. La profession devrait et pourrait faire plus qu'elle ne fait, mais ces initiatives exigent des fonds plus considérables et nous ne les avons pas.

SUMMARY: DENTAL RESEARCH

In view of the increasing population and in view of the decreasing dental personnel, research is a positive answer to the actual dental problem. It is recommended: (1) that financial support be obtained not only from the government but also from private sources; (2) that a social agency be established for the solicitation and distribution of grants for research; (3) that the dental curriculum be so arranged as to stimulate interest for research on the part of teachers and students. Dental research conditions in Canada and in the province of Quebec are reviewed.

LES ACTUALITES DENTAIRES

Le Canada

Augmentation des déductions pour les instruments.—Les dentistes peuvent déduire comme dépenses (à 100%) les déboursés qu'ils effectuent pour l'achat d'instruments qui coûtent moins de \$100.00. Jusqu'à maintenant, seulement les instruments qui coûtaient moins de \$50.00 pouvaient être retranchés comme dépenses. L'Association dentaire canadienne demandait cet amendement depuis quelque temps déjà.

L'Association dentaire canadienne a aussi joué un rôle important dans une décision qu'a récemment prise le gouvernement canadien au sujet de la liste des honoraires des services de santé pour les Indiens du Nord-Ouest. Le Journal, dans sa livraison de décembre 1960, exposait toute cette question.

Assemblée du Conseil d'Enseignement. — Le Conseil d'Enseignement dentaire de l'Association dentaire canadienne s'est réuni à Toronto, les 24 et 25 mars, sous la présidence du docteur James D. McLean, doyen de la faculté dentaire de l'Université Dalhousie.

Les membres du Conseil qui assistaient à la réunion étaient les docteurs J. P. Lussier,

de l'Université de Montréal, T. J. Cooke, de Winnipeg, H. W. Reid, de Toronto, et H. R. MacLean, de l'Université d'Alberta. Le docteur Carl E. Dexter, d'Halifax, a remplacé le docteur James B. O'Brien qui a récemment démissionné. Les doyens des autres Universités ont aussi assisté à l'assemblée.

Des professeurs de toutes les facultés canadiennes se sont réunis, immédiatement avant l'assemblée du Conseil, pour une conférence portant sur la dentisterie opératoire. Cette Conférence faisait partie d'une série d'autres qui sont tenues tous les ans pour permettre à des professeurs de différentes disciplines de se rencontrer pour discuter de leurs problèmes pédagogiques communs.

Les professeurs qui ont assisté à cette Conférence étaient les suivants: H. S. Crosby, de Dalhousie; H. Deschênes, de Montréal; Ernest Ambrose, de McGill; P. G. Anderson, de Toronto, et George Gibb, d'Alberta; le président de la Conférence était George A. Brass, de Manitoba.

Réunion du Conseil Exécutif. — Le Conseil Exécutif de l'Association dentaire canadienne s'est réuni au Secrétariat de l'Association au cours du mois de février. Le Conseil Exécutif, quoique la réunion ait duré trois jours, n'a pu discuter tous les items d'un agenda assez chargé. Un rapport complet de ses



Photographie prise lors du colloque sur une "Prise de conscience de la situation dentaire au Québec", tenu à l'Université de Montréal, le 16 mars 1961. De g. à d.: les docteurs Clarence Bouillon, Zdenek Mězl, Gérard de Montigny, Jean-Paul Lussier, Jean Yergeau.

délibérations sera présenté au Conseil des Gouverneurs, à Saskatoon, en juin prochain. Ci-après, paraît un résumé du travail accompli par le Conseil Exécutif au cours de son assemblée:

—Il a considéré les rapports des congrès de 1960 et de 1961, notant tout particulièrement l'excellent bilan financier du Congrès d'Ottawa.

—Il a approuvé plusieurs résolutions au sujet des expositions commerciales, de la publicité, des inscriptions et des programmes des congrès annuels.

—Il a rescindé la décision qu'il avait prise plus tôt de remettre une partie de leurs honoraires de licence à des membres qui exercent simultanément dans deux provinces.

—A revu complètement la "Déclaration de politique au sujet de la dissémination des services dentaires au Canada" et a prié le Conseil d'Enseignement d'étudier le plus tôt possible la question de la formation du personnel auxiliaire.

—A révisé la "Déclaration au sujet du personnel auxiliaire".

—A préparé le budget pour 1962.

—A approuvé la demande de l'Association pour devenir membre de soutien du Conseil canadien des expositions scientifiques.

—A décidé de prolonger d'une journée la conférence annuelle des secrétaires des Collèges provinciaux, qui durait habituellement deux jours.

—A sanctionné le programme que lui proposait le Comité national de recrutement.

—A approuvé le rôle et les objectifs du Bureau de renseignements au public.

—A nommé les docteurs F. H. Compton et T. G. Mitton au Conseil général de la Ligue de Santé du Canada.

On ne conseille pas aux dentistes de s'incorporer. — Les professionnels, y compris les dentistes, ne gagnent rien au point de vue taxation, à s'incorporer, car une compagnie n'est pas qualifiée pour exercer. De plus, selon le Code d'étiquette professionnelle de l'Association dentaire canadienne, il est défendu aux dentistes de s'incorporer. M. Gwyneth McGregor, rédacteur du Canadian Tax Journal (auquel l'Association dentaire canadienne est abonnée) écrivait récemment un article qui a fait sensation dans le Toronto Globe and Mail au sujet de l'incorporation d'un exercice professionnel.

Le cas d'un médecin qui a formé une compagnie privée illustre le fait que ne peut pas qui veut former une compagnie pour réduire son impôt.

Cette compagnie était composée de son épouse et de lui-même; il avait remis toutes ses valeurs à cette compagnie et il en reti-

rait un salaire qu'il prétendait constituer ses seuls revenus durant l'année. Le Ministère du Revenu national a forcé ce médecin à payer un impôt sur tous les honoraires qu'il avait perçus. Le Bureau d'appel pour l'impôt a rejeté l'appel du médecin en soulignant que le compagnie ne pouvait pas et n'avait, en fait, rien fait pour gagner ces honoraires. La compagnie était simplement une façon de créer des relations entre employé et employeur.

Des appels du genre ont été perdus parce que les honoraires avaient été gagnés par un individu et non par une compagnie qui ne travaille pas, n'entreprend pas de contrat, ni prodigue des services. Plusieurs individus qui prodiguent des services — des commerçants, des artistes — transigent sous forme de corporation; mais dans ces cas, la compagnie passe des contrats et retient les services d'individus.

Nombre de dentistes au Canada. — Les statistiques fournies tous les ans par l'Association au sujet du nombre de dentistes au Canada a paru dans la livraison d'avril du Journal. Des tirés-à-part de ces statistiques préparées par le Bureau des recherches économiques seront inclus dans une prochaine Lettre aux Gouverneurs.

Inscription des étudiants dans les facultés dentaires. — Des tableaux montrant le nombre des inscriptions des étudiants dans les facultés dentaires canadiennes ont paru dans la livraison de mars du Journal de l'Association dentaire canadienne. Des copies de ces tableaux ont été distribuées à ceux qui reçoivent les Lettres aux Gouverneurs. Il en sera ainsi à l'avenir plutôt que d'y consacrer un numéro spécial des Lettres aux Gouverneurs.

La fluoruration au Canada en 1961. — Au Canada, presque quatre fois plus de personnes boivent de l'eau fluorée en 1961 qu'il y a cinq ans. Le nombre de citoyens qui consomment de l'eau fluorée a augmenté de 980,000.

Quinze municipalités de plus ont commencé à fluorer l'eau de leur aqueduc en 1960. Cinq de ces villes sont situées en Saskatchewan. Le conseil municipal de ces cinq villes, excepté Prince Albert, a pris cette décision sans avoir recours à un plébiscite. Dans Prince Albert, il y eut une campagne vigoureuse de part et d'autre avant la votation. Les partisans de la fluoruration ont remporté la victoire par une majorité de 250. De plus, Estevan et Rouleau ont voté en faveur de la fluoruration, mais la mesure n'a pas encore été mise en acte.

TABLEAU No 1 Municipalités qui utilisent la fluoration en 1961

Province	municipalité	début	population affectée	population totale dans la province affectée par cette mesure
Terre-Neuve				
Ile-du-Prince-Edouard				
Nouvelle-Ecosse				154,500
	Halifax	juin 11, 1956	110,000	
	Dartmouth	juil. 3, 1956	35,000	
	Kentville	fév. 16, 1956	6,500	
	Wolfville	mai 1959	3,000	
Nouveau-Brunswick				
Québec				142,786
	Acton Vale	déc. 17, 1960	4,500	
	Beaconsfield		8,900	
	Berthierville	mai 1960	4,700	
	Dorval	fév. 1956	16,177	
	Duvernay	1958	7,000	
	Joliette	1957	18,009	
	Laval-des-Rapides	1958	16,000	
	Pointe Claire	fév. 3, 1955	20,000	
	Pont Viau	1958	14,000	
	L'Abord à Plouffe		12,000	
	Rock Island	juil. 1958	4,000	
	St-Vincent de Paul	1958	6,000	
	St-Martin		11,500	
Ontario				239,332
	Brantford	juin 20, 1945	53,616	
	Brockville	fév. 18, 1956	17,124	
	Deep River	déc. 9, 1952	5,130	
	Fort Erie	jan. 18, 1952	8,897	
	Oshawa	fév. 26, 1953	60,135	
	Sudbury	août 12, 1952	77,356	
	Thorold	fév. 12, 1952	8,602	
	Tisdale Township	oct. 3, 1955	8,472	
Manitoba				516,940
	Boisevain	jan. 13, 1957	1,215	
	Brandon	mars 7, 1955	28,500	
	Dauphin	jan. 4, 1960	7,800	
	Greater Winnipeg	déc. 28, 1956	460,000	
	Killarney	sept. 14, 1960	1,534	
	Minnedosa	juil. 7, 1960	2,406	
	Portage LaPrairie	jan. 13, 1958	12,525	
	Steinbach	mai 1960	2,960	
Saskatchewan				174,847
	Assiniboia	mai 1953	2,077	
	Eston	sept. 1957	1,537	
	Kamsack	juil. 1959	2,728	
	Kindersley	fév. 1959	2,445	
	Melville	fév. 1960	5,112	
	Montmartre	oct. 1960	465	
	Moose Jaw	déc. 1952	32,401	
	Prince Albert	fév. 1960	21,875	
	Rosthern	mai 1960	1,258	
	Saskatoon	juil. 1955	82,817	
	Swift Current	oct. 1954	11,338	
	Tisdale	mai 1960	2,016	
	Weyburn	mars 1955	7,210	
	Wynyard	août 1956	1,568	

Suite à la page suivante

TABLEAU No 1 (Suite)

Province	municipalité	début	population affectée	population totale dans la province affectée par cette mesure
Alberta	Devon	août 6, 1959	1,512	31,037
	Fairview	mars 4, 1958	1,448	
	Grande Prairie	juil. 8, 1959	7,410	
	Innisfail	juin 10, 1960	1,905	
	Red Deer	juin 10, 1958	18,762	
Colombie britannique	Burns Lake	fév. 1960	1,300	53,631
	Campbell River	mars 1960	3,200	
	Kelowna	oct. 1956	10,681	
	Kitimat	mars 1958	8,500	
	Lake Cowichan	mars 1960	2,150	
	Mesachie Lake	fév. 1958	300	
	Prince George	sept. 1955	13,500	
	Prince Rupert	mars 1957	11,500	
	Smithers	juin 1955	2,500	
Territoires du Nord-Ouest				3,600
	Yellowknife	août 11, 1959	3,600	
CANADA	total de la population affectée			1,316,673

En Manitoba, quatre municipalités ayant au total une population de 14,700 âmes se sont jointes à celles qui fluorurent l'eau. Il n'y a pas eu de plébiscite. Trois autres villes songent sérieusement à adopter la fluoruration.

L'Alberta a une ville de plus et la Colombie britannique trois qui fluorurent leur eau.

En Colombie britannique trois plébiscites ont eu lieu en 1960. Malheureusement, aucun de ces plébiscites n'a voté en faveur de la fluoruration. Québec a deux villes de plus qui utilisent la fluoruration. Il n'y eut aucun plébiscite en 1960.

La Commission d'enquête d'Ontario sur la fluoruration a remis son rapport le 21 février 1961. La Commission s'est prononcée en faveur de cette mesure d'hygiène publique et a recommandé à la Législature d'adopter une loi pour permettre aux municipalités d'adopter la fluoruration sans avoir recours à un plébiscite.

Les provinces maritimes et Terre-Neuve, en 1960, n'ont pas fait de progrès au sujet de la fluoruration. A Charlottetown, dans l'Île-du-Prince-Édouard, il y eut un plébiscite, mais la fluoruration a été refusée par un vote de 1,540 contre 1,513.

Chronique internationale

LA FLUORATION DE PAR LE MONDE

Huit-cent mille citoyens du Chili bénéficient maintenant des avantages de la fluoruration. L'eau de certaines municipalités est maintenant fluorée grâce aux démarches du Service national de Santé et du Service de génie sanitaire.

La fluoruration a été stimulée par l'École d'Hygiène de l'Université du Chili. Le bulletin périodique de la Fédération dentaire internationale rapporte que cette mesure est acceptée par la profession dentaire et par le public. Le gouvernement d'Irlande a, dit-on, sanctionné une loi qui oblige les autorités sanitaires de prendre les dispositions nécessaires pour fluorer l'eau de consommation. On doit entreprendre un relevé de l'incidence de la carie dentaire avant que cette loi devienne en force.

Le Conseil de la ville de Launceston, en Tasmanie, a voté en faveur de la fluoruration; il y a 50,000 habitants dans cette ville.

La nouvelle capitale du Brésil, Brasilia, fluorure l'eau de son aqueduc. On a commencé en septembre 1960 à fluorer l'eau de

cette ville à trois de ses premiers dépôts; 200,000 personnes bénéficient de cette mesure. La ville de Campinas, qui est la treizième ville en importance du Brésil a aussi commencé la fluoruration.

A Toronto, Ontario, le conseil municipal a voté, avec une dissidence, en faveur de la fluoruration. On croit que le Conseil du Grand Toronto, qui groupe 13 municipalités de la région, adoptera un règlement du genre, dès que la Législature de la province lui en accordera le droit.

ETATS-UNIS

Publication du rapport de l'enquête américaine. — Le rapport final de l'immense enquête sur la dentisterie qui a eu lieu aux Etats-Unis vient d'être publié dans un volume de 600 pages intitulé "The Survey of Dentistry". On peut se procurer ce volume au coût de \$10, en s'adressant à l'American Council on Education, 1785 Massachusetts Ave. N.W., Washington 6, D.C. On croit que cette enquête est la plus complète qui n'ait jamais été entreprise sur la dentisterie; elle a suscité un intérêt considérable au Canada. La Commission composée de 16 membres, qui a fait cette enquête, a exprimé dans son rapport les opinions de la profession et celles du public. Le secrétaire de l'Association dentaire canadienne était l'un des quatre dentistes au sein de la Commission.

Des recherches de radioactivité confirment la sécurité de la fluoruration. — Selon le docteur Wallace D. Armstrong, de la faculté de médecine de l'Université de Minnesota, des recherches utilisant du fluor radioactif prouvent encore une fois la sécurité de la fluoruration de l'eau. Le docteur Armstrong, qui témoignait devant un sous-comité de la Chambre des Représentants des Etats-Unis, a déclaré que ses études démontrent que le fluor s'élimine d'une façon rapide et effective dans l'urine.

Le docteur Armstrong a de plus déclaré que l'application de radiosotopes en recherches dentaires a montré des comportements étranges en biochimie et en physiologie dans des dents saines et adultes; ces phénomènes aideront sans doute à l'élucidation des causes de la carie dentaire et des érosions. La faculté dentaire de l'Université de Toronto fait des recherches sur les isotopes et l'Université de Manitoba se propose d'en entreprendre bientôt.

Le Corps Dentaire Royal Canadien

Le brigadier Baird inspecte la 12e Compagnie. — Le brigadier K. M. Baird, Directeur général des Services dentaires, a inspecté, vers la fin de mars, la 12e Compagnie dentaire, Région militaire de l'Est, dont le quartier-général se trouve à Halifax. Accompagné du lieutenant-col. A. T. Roger, commandant de la 12e Compagnie, il a visité les cliniques dentaires du CDRC dans la région d'Halifax, du Camp Gagetown, du "Cornwallis" et de la station de l'ARC à Greenwood. Pendant qu'il était à Saint-Jean, le brigadier Baird a eu des entretiens avec le colonel honoraire commandant du Corps, le colonel J. F. Edgcombe.

Le colonel Shillington à Camp Borden et à Toronto. — Le colonel G. B. Shillington, Sous-Directeur général des Services dentaires, a visité, le 23 mars, l'Ecole du CDRC à Camp Borden et a assisté à une réunion du Conseil de l'éducation dentaire de l'Association dentaire canadienne qui a eu lieu à Toronto, le lendemain.

Le colonel Harris inspecte le CDRC (Milice). — Le colonel H. L. Harris, Directeur des Services dentaires (Marine), a inspecté dernièrement des unités du CDRC (M) au Canada en marge du Concours annuel d'efficacité générale pour la Milice. Toutes les unités y participent cette année dans l'ordre suivant:

50e Unité dentaire, Halifax —

Lieut.-col. G. C. MacLeod, Commandant
51e Unité dentaire, Saint-Jean —

Lieut.-col. H. F. Bonnell, Commandant
53e Unité dentaire, Montréal —

Lieut.-col. A. J. Gervais, Commandant
54e Unité dentaire, Ottawa —

Lieut.-col. H. J. Chartrand, Commandant
55e Unité dentaire, London —

Lieut.-col. A. J. Harris, Commandant
56e Unité dentaire, Toronto —

Lieut.-col. A. Z. Henry, Commandant
57e Unité dentaire, Winnipeg —

Lieut.-col. M. J. Snidal, Commandant
58e Unité dentaire, Regina —

Lieut.-col. A. Mintz, Commandant
59e Unité dentaire, Calgary —

Lieut.-col. G. N. Finlay, Commandant
60e Unité dentaire, Edmonton —

Lieut.-col. S. G. Geldart, Commandant
61e Unité dentaire, Vancouver —

Lieut.-col. F. K. Currie, Commandant

Une nouvelle clinique dentaire s'ouvre à Saint-Hubert. — Une nouvelle clinique dentaire des plus modernes a été inaugurée officiellement à la station de l'ARC de Saint-Hubert près de Montréal, le 6 mars dernier, par le brigadier K. M. Baird, Directeur général des Services dentaires. Étaient aussi présents à l'ouverture: le commodore de l'air J. B. Harvey, l'officier d'état-major en chef du quartier général du Commandement de la défense aérienne, le colonel T. L. Marsh, commandant de la division dentaire de la Région militaire du Québec et le capitaine de groupe W. B. Hodgson, commandant de la station de l'ARC de Saint-Hubert.

Le major E. D. Fraser, de Springhill (N.-E.), remplit les fonctions d'officier dentiste supérieur de cette clinique qui possède un laboratoire très moderne et cinq pièces servant aux traitements dentaires.

Le major Finkbeiner prend sa retraite. — Le Quartier-général de l'Armée annonce que le major George L. Finkbeiner, C.D., officier dentiste supérieur au dépôt du personnel No 7 de London (Ont.), prend sa retraite.

Le major Finkbeiner est né à Milverton (Ont.) et il a fréquenté l'école secondaire de Listowell (Ont.). Il a reçu sa formation professionnelle à l'université Marquette du Milwaukee, où il a reçu son diplôme en 1935. Après un an de travaux post-universitaires à l'université de Toronto, il a ouvert son propre bureau à Listowell. En octobre 1940, il s'est enrôlé dans le Corps dentaire et il servit au Canada, au Royaume-Uni et dans le nord-ouest de l'Europe jusqu'en octobre 1945, date à laquelle il est retourné à la pratique civile à Listowell. En avril 1948, il s'est réengagé dans le CDRC et il a servi dans les 12e, 13e et 14e compagnies dentaires.

Le major Finkbeiner, qui est marié et a deux enfants, a commencé son congé de retraite au 1er avril. Il a l'intention de rester en relation avec le corps à titre de civil.

Le major Protheroe assiste à une réunion du Comité de rédaction. — Le major D. H. Protheroe, officier de l'hygiène publique dentaire à la Direction des Services dentaires, représentait le Directeur général à une réunion du Comité de rédaction de la revue "Oral Health" à Toronto le 22 mars.

Le capitaine Welsh ouvre son propre bureau. — Le capitaine R. D. Welsh, de Lloydminster (Sask.), a été libéré du Corps dentaire au terme de sa période de service afin de s'installer à son propre compte. Le capitaine Welsh, qui a été diplômé en 1956 à l'université de l'Alberta, était employé à la station de l'ARC de Sea Island (C.-B.), avant sa libération le 1er avril.

Promotion du capitaine MacDonald. — Le Quartier-général de l'Armée a annoncé la promotion du capitaine I. A. C. MacDonald au grade de major.

Le major MacDonald, qui est né à Mar-mold (I.-P.-E.), a obtenu son diplôme à l'Université de Dalhousie en 1950. Il a reçu son brevet d'officier au grade de capitaine en 1953 et il a servi dans la 12e Compagnie du Corps dentaire dans la Région militaire de l'Est. Le Major MacDonald est actuellement affecté à la 35e Unité dentaire en campagne à Metz (France), où il demeure avec sa femme et ses deux enfants.

Le sous-officier breveté de 1re classe Doyle est promu officier. — Le Quartier-général de l'Armée a également annoncé que le sous-officier breveté de 1re classe H. F. Doyle a été promu au grade de lieutenant à compter du 22 décembre dernier.

Le lieutenant Doyle, qui est officier du matériel, est né à Saint-Jean (N.-B.) et il s'est enrôlé dans le Corps dentaire au mois de novembre 1940. Il est actuellement affecté au 1er Dépôt du matériel dentaire situé à Petawawa (Ont.), où il demeure avec sa femme et son enfant.

Des officiers du Corps dentaire suivent des cours. — Les officiers dentistes suivants ont suivi ou sont en train de suivre des cours. Ce sont:

Le major P. S. Sills, un cours de perfectionnement en art dentaire d'une durée de quatre mois au Walter Reed Army Medical Center, Washington (D.C.).

Le capitaine J. I. Gordon, un cours sur les dentiers partiels au U. S. Naval Dental School de Bethesda (Maryland).

Des officiers dentaires américains suivent des cours au Canada. — C'est la première fois que des officiers dentistes de la Marine et de l'Armée des États-Unis suivent les cours cliniques donnés à l'Ecole du Corps dentaire à Camp Borden.

Le commander L. M. Armstrong et le lieutenant-colonel J. E. Lancaster ont suivi le cours donné en janvier et février, tandis que le lieutenant-commander S. O. Bartlett et le major D. E. Swartz doivent suivre le même cours pendant les mois de février et mars.

Affectations. — Les nominations suivantes ont été faites récemment parmi les officiers dentistes:

Le major P.-H. Guèvremont, qui a été en service à bord du Bonaventure pendant un an, a été affecté à un poste à Montréal.

Le capitaine P.-J.-J. Coulombe, qui était en service à Camp Shilo (Man.), a été affecté à la station de l'ARC de Clinton (Ont.).

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Adlerian Psychology in Dentistry

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The technological progress of dentistry throughout the last half-century can be considered phenomenal. But, unfortunately, its humanistic progress has not kept pace. Despite the forward strides which dentistry has made in the alleviation and elimination of localized pain, many laymen still regard the dentist's office as a chamber of horrors. And for fifty years not enough has been done to change this attitude.

Fear of the dentist is one of the most important single factors in dental neglect which is so widespread today and which is the cause of most serious dental troubles. People with well-cared-for-mouths will be found to be "on good terms" with their dentists. Good teeth are usually the result of full co-operation between the dentist and patient—one might

almost say "collaboration", for dental treatment requires that doctor and patient work together.

Collaboration actually begins when the patient makes his appointment, for he has then made a voluntary agreement to be treated, and it should continue throughout treatment; for any resistance on the part of the patient prolongs the work and tends to discourage subsequent visits. Resistance ranges from overt acts to subconscious reflexes such as excessive salivation, gagging, panic reactions and countless other anxiety symptoms.

What is needed far more than improved technology at this time is the fuller co-operation of patients through the elimination of resistance to dental procedures.

While some persons in serious need of dental treatment neglect it completely,

others come to the dentist in states of anxiety which all but defeat the dentist's efforts to help them. Even conscientious patients are often the victims of a form of compulsive self-control and, as such, are in reality no more relaxed and compliant than the obviously distraught patient.

Although necessary dental treatment may be repeatedly put off because of a dislike of the dental chair when one might be more pleasantly occupied or because of a feeling of loss or of a feeling of advancing age associated with extraction, the dread of pain is really the reason for most of the prevalent adverse attitudes toward dental care.

Let us see how valid this dread of pain really is. How much physical pain is felt by the average dental patient? In these times of highly-developed technology, the average patient feels little or no pain. A patient usually experiences only slight discomfort when undergoing ordinary restorations or uncomplicated extractions, yet he may suffer agonies of fear, tension and digestive disturbances because of a subconscious association of dentistry with physical torture. The modern dental office is still, in a manner of speaking, a place of devices which are looked upon with something less than enthusiasm. Dentists use gleaming, lethal-looking instruments in their work. Nothing will convince some patients that dentistry has made any progress since they first formed their attitudes toward it.

Almost all the discomfort suffered by modern dental patients is of their own making—psychogenic, or specious pain due to anxiety; pain resulting from psychosomatic functional disorders caused by apprehension, and actual pain caused by abscess or exposed nerve, due to neglect. None of these pains is directly caused by dental treatment, and all are obstacles to treatment, as well as contributing factors in neglect of tooth care.

To bring the patient's goals into line with his dentist's and to bring about a doctor-patient relationship cleared of all emotional charge (except the positive) is

the task facing the modern dentist. The phobias and anxieties which prevent many people from obtaining necessary dental treatment, and cause others who receive treatment to be difficult patients, must be removed. For this, psychological measures are needed.

ADLERIAN PSYCHOLOGY

Yet the dentist is not a psychiatrist—his very goals are different. The job of a psychiatrist is to redirect a personality which has gone astray. If, in doing this, he cures a patient who gags in the dental chair, so much the better, but it is not his primary aim. The dentist, on the other hand, usually needs only to be able to hold aside a distressing symptom of personality trouble (as one holds aside a flapping curtain) until the teeth are treated.

Since the dentist's needs for using psychotherapy in his practice are so entirely different from a psychiatrist's, it stands to reason that they need very special consideration. It may be (or may not be, for we wish to give no opinion) that Freudian psychoanalysis is excellent for psychiatrists. It certainly is not suitable for dentists.

There are more than sixty "schools" of psychotherapeutic thought, and the writer cannot claim to be intimately acquainted with them all. However, in a large city practice, over a period of years, it has been found that the Adlerian principle can be successfully applied to dental patients, and that it fulfils all the basic requirements for a busy dentist.

The reason for the writer's selection of the Adlerian school of psychology rather than another is mainly its simplicity (but not superficiality) in theory and its practicability of application. Adlerian psychology is a "use" psychology. It makes the person aware of what he is doing, not what he is feeling, thereby rendering unnecessary a prolonged study of the evolutionary causes of present day maladjustment and neurotic behaviour

patterns. Adlerian psychology is of maximum benefit to the dentist because it provides a practical and brief method of understanding the patient and establishing rapport with him.

Still another feature which makes the Adlerian psychology easy to apply is its concept of the nature of Man—a positive concept. The Adlerian psychologist does not regard Man's unconscious mind as a ruthless, predatory, animalistic force, nor does he believe Man's biological instincts to be the underlying drives that motivate him. The Adlerian school of psychology holds Man to be a social, not an anti-social, being whose basic purpose is to find a place in society. To the Adlerian, the word "human" means "human interaction", and the personality is an aggregate of the ways in which an individual relates to others.

Nor did Adler agree with Freud that the emotions are rooted in the unconscious. It was his belief that we ourselves create our emotions. According to Adler, Man is creative; there is more to life than the cause-and-effect principle. Therefore, to understand an individual, it is necessary to see him as a goal-directed organism and not as a mechanistic puppet. When any individual is unable to exercise his self-determinism in the way he would like to, he develops symptoms, but his symptoms are his reactions to the environment; they are created, not by the environment, but by the individual himself, as a method of dealing with the environment.

Adler also believed that the individual is what the word implies, indivisible; that you can no more separate an individual into different zones like body and mind, ego, super-ego and id than you can separate him into right and left sides; that in an individual the words "psychological" and "physiological" are only adjectives.

The theory that human conduct is purposive rather than completely reactive, and the theory of the unity of personality, gave birth to an entirely new approach to psychotherapy. The purposive, holistic

and teleological concept of Man indicates that he, and not his subconscious, nor his environment, are the monitors of his conduct. And from this we may conclude that behind all neurotic attitudes and behaviour, there is a definite purpose.

According to Adler man is a social being and has as one basic desire, to find a place in the group. He believes that at the very core of every human being is the desire to be somebody, the desire to be important. In order to achieve this goal, one often overcompensates for real or imagined inferiority to others through increased self-importance, the will to dominate, and that all irrational conduct is part of an adopted behaviour pattern resulting from such motivation.

He sees neuroses as simply safeguards to self-esteem, raised because some goal could not be reached—or because the patient thought that the goal could not be reached. Whenever the individual comes to a crisis situation where he cannot function, feels inadequate, where he is afraid of failing, then he develops symptoms—symptoms which excuse him, which permit him to withdraw, permit him to detour, to create a side-show and so avoid the situation without admitting to himself or anyone else he is doing this. Thus, the roots of neurosis lie in discouragement.

It will be seen that this is in accord with Adler's view of Man as a social being. What gives him the neurosis is not what goes on within himself so much as what goes on between him and others. He is more concerned with solving his life problems within a social environment than he is in solving his health problems.

Regardless of his personality makeup, if he is in a situation in which he feels accepted, where he feels good enough, where he feels adequate, he will be able to perform well and will not act in a neurotic manner. He will stop performing and will become maladjusted only when he becomes discouraged, when he loses faith in himself, in his own strength and ability, loses belief in his own value and worth. So we see that the ability to en-

courage is an art which should be developed to the greatest possible extent by the dentist. It not only makes the patient feel more comfortable but often results in the creation of constructive and useful behaviour. From the point of view of the dentist the most important concept in Adlerian therapy, if one could be singled out, is the deliberate and skilful use of encouragement.

Of course, the patient is not aware of the reasons for his neurotic behaviour, but we can be sure that any nervous symptom is directed against some particular situation, against some social task, against some duty or some person. Very often, the patient does not want to be relieved of his symptoms. If he were so relieved, of course, he would not have an excuse to avoid whatever it is that discourages him.

The personality pattern is formed in the early years in order to deal with situations during those years; but in each individual the pattern becomes fixed and, unless removed by psychotherapy, persists throughout life. The adult's interpretations of his early recollections coincide with his present outlook on life—on himself in relation to others. When he discovers that his abnormal behaviour, attitudes, emotions, follow a pattern developed in childhood and are no longer adequate to the present situation he will be in a better position to understand why he adopted them. This will enable him to make more correct evaluations of present situations and make a more rational adjustment to life.

For the child seeks to maintain himself and compensate for what he believes are his inferiorities, by such means as the development of abilities, personal characteristics, and various artifices, and in so doing develops a definite life plan, usually before the age of six. This life plan, Adler points out, does not grow out of any peculiarity in the child, nor does it spring from an isolated experience. It grows from the constant repetition of difficulties, real and imagined, during the formative years.

"Adler provides a definite and rather simple technique for a clear understanding of a person's basic personality pattern, which he calls his "life style." This very pattern which characterizes each individual and all his movements through life, is developed in early childhood. It is impossible to understand any adult without information about his first four to six years which are the formative years. In this period, every person develops concepts about himself and about life which are maintained throughout life, although the person remains completely unaware of the premises he has developed for himself and upon which he acts." 7

In school and in adult life, success over others can take a wide variety of forms. But if the means of excelling cannot be found, an individual may shift his goals to that of failure—or "inverted excellence." The reasoning here would be that any form of distinction is better than none.

According to Adler, the destructive powers of a patient who wants to be the "worst patient" are as unlimited as the amount of work and effort which an over-ambitious "successful" person uses to stay "on top." Adler is here referring to psychiatric patients, but his observations apply equally to medical and dental patients. Members of the dental profession are only too familiar with the behaviour of those who suffer from a "worst patient" complex—the tantrum-throwing child, the patient who is dissatisfied with everything his dentist may do for him, the appointment-breaker, and many others.

In times of stress or during the permanent stress of the neurotic state, the adult, in his endeavour to increase his personal importance, will make efforts to bring himself and his environment into conformity with the fictive goals of his life style. His opinions, beliefs, ideals are all influenced by these false evaluations. Superficial environmental changes bring about superficial alterations in an individual life style. But the life style itself remains intact, with alterations only in the methods of achieving its goals.

Memories are constantly drawn upon by

individuals in their effort to maintain and reinforce their particular life style. The memory records all experience, maintaining a sort of reference file. Considering all these factors, Adlerian psychology offers some techniques that can be used quite simply yet effectively by the dentist.

We must envisage the human being as having a life style brought about by the goals toward which he or she is consciously or unconsciously striving. This life style is decided quite early in life and grows out of the individual's social relationships in childhood.

"A clear formulation of a person's life style can be obtained through investigation of his family constellation, which is a sociogram of the group at home during his formative years. This investigation reveals his field of early experiences, the circumstances under which he developed his personal perspectives and biases, his concepts and convictions about himself and others, his fundamental attitude, and his own approaches to life, which are the basis for his character, his personality. After we know the setting, we can determine from his early recollections the conclusion he drew under those circumstances." 7

Adlerians minimize unconscious forces and explore past events only insofar as they cast initial insight on the patient's life style.

It is useful, therefore, to know something of the patient's position in the family (whether an only child, an only boy among girls, an only girl among boys, etc.), and of his relationships with his parents and any others who might be dwelling within the family setting.

After we know this setting, a further useful technique, easily adopted by the dentist, is to study the patient's early recollections. Curiously, these are very illuminating of his life style and goals. In fact, so revealing are they that after successful psychiatric treatment a patient will remember other things from his early life, quite different from those he remembered before treatment. Without realizing it, we choose to remember those

things from early childhood that fit what we conceive to be the pattern of our lives. Thus, out of the millions of experiences to which we were exposed in early childhood, we remember only those which coincide with the outlook we presently hold of life.

It will be found that all early recollections show a similar pattern. Where they appear to differ it will be found that they actually overlap and supplement each other. They do not contradict each other.

The dentist can understand a great deal about his patient's present goals if he can learn something of his early childhood recollections.

Another revealing technique is to ask a patient what result would ensue if he could overcome his present problem. The dentist says:

"Let us imagine I have a pill to give you that would make you completely well as soon as you leave this office. What would be different in your life? What would you do differently than before?" 7

The reply to this question is of the utmost significance. It indicates whether the symptoms have psychological significance or not. If so, it suggests what their significance is.

A woman complained that she could not wear her dentures because they made her mouth burn severely. When asked what difference it would make in her life if she could wear her dentures comfortably she replied: "I could go out with my husband more often. You see he likes to go out and be with people. He is a very outgoing sort of person and is not happy staying home as we now have to."

Now a normal reply would have been simply: "Why my mouth would be more comfortable" or "I would be able to eat better." Why did this woman make her unusual answer? Because, of course, the burning sensation represented a psychological problem. Subconsciously, she didn't want to go out with her husband and was using this symptom to control, to a large

extent, her home and social situation.

Often, in psychotherapy, the patient with a neurosis will tell the dentist that if he were well he might look for a job, improve his present job, get along better with his wife, get married or even get a divorce. The neurosis is being used as an excuse for not doing those things which the patient feels are beyond his capacity.

A person with a very highly developed ambition, one who believes that he must be the first or he will be lost, the perfectionist, will become discouraged where someone else sees no danger to his social status. These people will have more neurosis than the rest of us.

On the other hand, the person with much social interest, who is less interested in his own prestige than in the welfare of others, who enjoys being useful and knows how to be, the individual with courage who knows that he can stand anything and that he will be able to make the best of any situation, will withstand greater hardships and more causes for disappointment without becoming afraid, nervous and neurotic.

The important concept in Adlerian therapy—or at least one of the very important concepts—is that the patient must be made to see what he is doing to others and the purpose of his acts.

Adler used to call this technique "spitting in the patient's soup"—not a very nice term, perhaps, but colourful and descriptive. He is made aware of what he is doing. He can still continue to do it but it does not taste too good any more. This particular technique is more often of use to the psychiatrist than the dentist.

A technique of which the dentist can make great use is one based on the recognition reflex. This is a technique by which the dentist tactfully suggests reasons for the patient's actions. If he hits on the right reason the patient will be unable to restrain some sign in his reaction. Of course the patient may not admit it, but his reaction gives him away.

The writer had a very difficult patient, aged 11, who asked interminable questions. Finally this patient was asked:

"Would you like to know why you ask all these questions?" She, being curious, answered "Yes." "Could it be that you keep asking the questions to prevent me from fixing your teeth rather than to gain information?" The little girl responded with a perfect recognition reflex and then said "Half and half." But she asked no more questions.

On another occasion a boy of eight could not stop coughing until he was asked: "Perhaps you are trying to tell me something by coughing. Do you think that you are trying to tell me that you don't want your teeth fixed?" Again there was that telltale recognition reflex—and no more coughing.

Adler was the first psychotherapist to place a high value on the social relationship between the therapist and the patient. He believed that this relationship could serve as a re-educative bridge to other relationships. He held that all individuals who fail are deficient in concern and love for their fellow beings, and he devoted most of his energy to the attempt to increase the social interest of the patient.

The disturbed person, Adler thought, had a private and irrational meaning for life that stops short of deep and positive feeling for others. The therapist's job, as Adler saw it, was to help the individual substitute realistic for unrealistic life goals and to instill social interest and feelings.

The dentist who will study Adler more thoroughly than it is possible to describe in the space of this short paper will be well rewarded. Many of the Adlerian theories can be put into useful practice within the casual dentist-patient relationship and can be most enlightening within the narrow framework of the dentist's psychotherapeutic work.

If necessary, some of the information required can be elicited on a form, which the patient fills out before dental treatment commences. In our office we have such a form and use it when necessary. However, the answers to such inquiries should be more fully explored when necessary.

No doubt thousands of dentists have instinctively followed good psychotherapeutic practices for years. Many of them are common sense for a considerate dentist. The establishment of a close rapport, a mutual trust, between a dentist and his patient suggests that a good deal of effective psychotherapy has been carried out whether anyone knows it or not.

What we would like to see is a more formal acceptance within the profession of the value of psychotherapy. We would like to see its inclusion in dental school curricula. At present the work of many dentists is slowed, impeded or prevented by the neurotic responses of patients. We believe this situation would be overcome by proper use of Adlerian psychotherapy.

SUMMARY

1. A significant number of patients cause real difficulty in the dental chair because of serious neurotic responses.

2. These neurotic responses are not primarily caused by the dental operation but are frequently a reaction to inner problems.

3. It is therefore desirable that dentists study some form of psychotherapy sufficiently to be able to control neurotic situations at least enough to carry out treatment in the mouth.

4. In our practice we have shown that Adlerian psychology is highly effective when used in the dental office, and some of the broad concepts and techniques are outlined.

5. An important concept in Adlerian

therapy consists of the technique of encouragement.

RÉSUMÉ

Un certain nombre de patients, à cause de manifestations névrotiques sérieuses, créent des problèmes considérables chez le dentiste. Leur comportement n'est pas surtout déclenché par les traitements dentaires: ils sont des effets de problèmes psychologiques personnels. Il est donc souhaitable que les dentistes possèdent des données suffisantes de psychothérapie pour contrôler ces réactions nerveuses, de façon à pouvoir prodiguer leurs services. La méthode psychologique d'Adler que l'auteur a adoptée au cabinet du dentiste lui a rendu de réels services et, dans son article, il en décrit les grandes lignes et les techniques d'application. La méthode d'Adler utilise surtout le support moral et l'encouragement.

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Complete Denture Procedure — Part 1

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Complete denture procedure is not entirely a mechanical process as some would have us believe. A knowledge of anatomy, physiology, pathology and other subjects including physics and chemistry must be acquired at the university level before dentures can be created physiologically. In recent years it has become apparent also that some knowledge of psychosomatics is necessary before we can understand why some patients find well constructed dentures difficult to master.

Students of Freud have known for a long time that the oral cavity and teeth symbolically represent sexual organs (phallic symbols). They attribute many abnormal behaviour patterns to hidden sexual origins. Also, some patients remain or progress into orally centered patterns of behaviour in a variety of manners, some of which may be traced back to early infancy. These may manifest themselves not only in edentulous patients but also in patients with natural dentitions. The important difference is that with complete dentures these abnormal patients have the option of removing the dentures, often to the chagrin of the dentist. It becomes obvious, then, that the dentist is unwillingly involved in a psychological area which can only be explained, in some instances, by physicians with specialized training in psychiatry.

However, on the other hand, it has frequently been observed that problem patients who have had difficulty adjusting

themselves to wearing dentures have been converted into "good" patients by proper treatment when at the outset they have appeared to be "irrational". The threshold of human tolerance varies at different times from a broad band to a thin line and a little extra care in procedure may be just the factor required to convert a case from failure into success.

The procedure here described is given in detail. The writer has adhered to this method for many years. The only modification of recent date concerns the utilization of synthetic rubber base impression material. Some, but not all, of the procedure is followed by the volunteer staff of dentists at the New Mount Sinai Hospital. Due to necessary limitations, certain steps such as the use of the face bow and the employment of adjustable articulators and balanced articulation are of necessity omitted from the procedure by the hospital staff at present. However, everything else is carried out with surprisingly few adjustments. In the writer's office practice, very few pressure lesions result when the herein described method is used. When they do, the cause may as a rule be traced to an infraction of the prescribed procedure.

The method outlined is designed to prevent errors either by the commercial laboratory or by the dentist. For instance, when centric occlusion is obtained by means of a gothic arch tracing at a definite vertical dimension, this positive record is returned with the set-up for verification. This eliminates the temptation by a technician to increase the vertical dimension in order to facilitate the setting of teeth. It is much easier to "open the bite" on an articulator than to reduce the necks of teeth to make them fit into a close bite situation. The technician on the other

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hand is also assured that any error in obtaining centric relation or the correct vertical dimension rests with the dentist himself. Similarly, when the gothic arch tracer is returned, mounted, the wax record is also returned. Also the occlusion is checked by remounting the casts before the processed dentures are removed from them after processing. Safeguards are thus provided to prevent or correct errors in procedure.

FIRST APPOINTMENT

The patient's first impression of the dental office is of its accurate and orderly routine as well as the kindly, sympathetic, but not overly solicitous attitude of the dentist and his assistant. The wearing of dentures is an important event in anybody's life and the patient must feel that he is in a sympathetic environment. The dentist can encourage proper patient attitude by permitting the patient to talk, by being a good listener, by not promising anything more than a conscientious effort and by not criticizing previous denture service adversely. The dentist should determine the patient's feelings about aesthetics, and advance his own suggestions without forcing them on the patient.

In quoting his fee the dentist safeguards himself by permitting a limited, stated number of adjustments after the dentures are inserted. Six should be more than ample. The average number of adjustments necessary should be no more than two. However, some patients may require more than the average number of appointments. Therefore, at the outset, a fee is quoted and the patient is advised that an additional fee is charged for every adjustment after the first six; also, that there will be an additional fee for alterations such as resetting teeth which have already been approved, or relines which may be necessary at a much later date.

Two factors must be considered when making impressions—(1) harnessing the positive retaining forces of atmospheric pressure and surface tension, and (2) avoiding the negative displacing force of

tissue elasticity.

Atmospheric pressure is a force of 14.7 pounds per square inch which is obtained when the peripheral borders of dentures engage the tissues, effecting a seal and preventing air from entering underneath the dentures. This result can be obtained by creating a beaded margin about the entire periphery of a denture, but painful experience has proven that this type of retention is not permanent, is injurious to the tissues, and ultimately results in loose dentures. We do employ the force of atmospheric pressure, however, by sealing the peripheral contacts wherever possible.

Positive contact of the denture base with the moist mucosa will produce an adhesion by contact through surface tension. The closer the contact is, the greater the adhesion. However, pressing the impression material close to the mucosa has only very temporary results because the impression or the denture made from this type of impression often loosens since the displaced tissues tend to return to their normal position and the denture ultimately loses uniform contact.

Displaced tissue possesses a memory which compels it to return to a position of rest unless retained by a stronger force. The degree of force necessary to retain tissue away from its normal resting position depends upon the nature of the tissue, the degree to which it is displaced, and the type of impression used.

The aim is therefore to take advantage of atmospheric pressure and surface tension without infringing on physiological requirements and without unnecessary tissue displacement.

Primary Impression

An irreversible hydrocolloid (alginate) impression material for the primary impression is preferable to impression compound material which displaces tissue excessively as a rule. Since we wish to keep the pressure-bearing tissue undisplaced during the making of the final impression, we begin by using alginate. The purpose of this primary impression is to produce

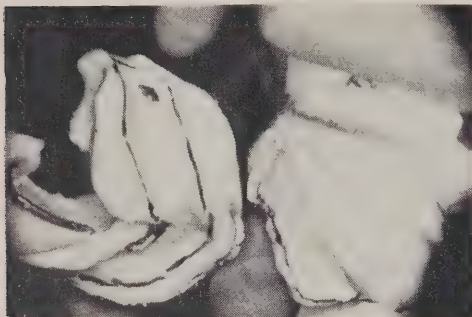


FIGURE 1

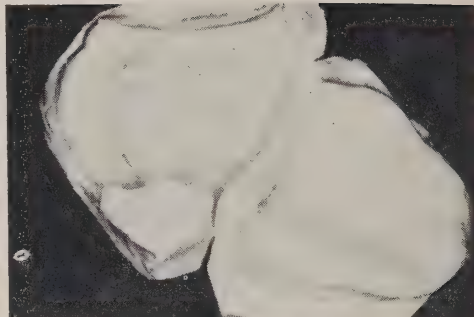


FIGURE 2

plaster casts on which more accurate acrylic impression trays can be prepared. The stock impression tray fits rather loosely and an impression is made in the usual manner. The proposed outline of the acrylic impression tray is then marked on the alginate impression with indelible pencil (Figure 1). This, in turn, will create an outline on the plaster cast after the primary impressions are poured (Figure 2). This outline guides the technician in the preparation of the acrylic impression tray and reduces the time required for trimming such trays at the chairside.

On the upper impression a line is made by joining the hamular notches behind the tuberosities. This line passes about a millimetre posterior of the two dots of the fovea near the midline of the junction of the hard and soft palates. A line is then drawn about the entire periphery, inside the border just where the peripheral tissue begins to turn from the ridge towards the cheek and lips. It is better for the flanges to be a little short at this stage.

The lower impression is a little more difficult to outline. The distal part of the crest passes diagonally from the buccal to the lingual aspect and includes the retromolar pad. On the buccal aspect, the line is continued to the usually well defined external oblique line from which, like on the upper impression, the buccal and labial flanges are outlined just short of the point where the rounded peri-

phery begins. It is preferable that this outline be made a trifle short to prevent overextension. The lower lingual outline for the tray must be made with greater care. The patient is requested to protrude the tongue in order to disclose where the distal outline of the lingual margin on the lower denture will be placed. A mouth mirror placed between the tongue and the alveolar ridge, while the patient protrudes the tongue, will help. This distal outline falls at a point between the rest position of the tissues and their position when the tongue is protruded all the way. The impression is accordingly marked with an indelible pencil. The patient is now requested to place the tongue into the opposite cheek. This will disclose how high the tissue rises. Again the lingual sulcus is much shallower than when the tongue is at rest. The impression is marked somewhere between the two positions. The patient is then requested to place the tongue on the upper lip and the impression is marked off in the anterior lingual segment. If any pendulous tissue is present in the mouth, it is outlined on the impression.

Laboratory Procedure

When casts are made from these impressions, the blue indelible pencil marks are reproduced on the cast (Figure 2), indicating the outline of the impression tray to the technician. Pendulous tissue

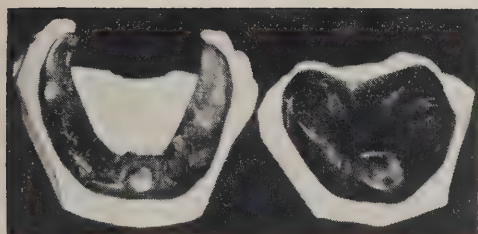


FIGURE 3

such as is frequently observed on upper anterior ridges, is outlined on the cast so that the technician can block it out with wax to create space to accommodate the tissue without displacement in the impression. Thin knife-like ridges at the crest, and other such bony projections are similarly relieved.

Acrylic Impression Trays

The impression trays for the final impression are made of fast-curing acrylic material. This withstands heat and does not warp as readily as shellac base plate material (Figure 3). A handle is attached in the anterior region to facilitate manipulation. The handle should not be too long so as to avoid any interference with the tongue and should be concave so that it can be grasped easily. Also the lower handle should be placed well over the crest of the ridge. Frequently, handles are placed too far anteriorly and do not permit the lip to fall into a natural position of repose during impression making.

SECOND APPOINTMENT

The trays are first tested for overextension, stability or underextension. The trays should fit relatively well and have a fair degree of retention, chiefly by means of surface tension. However, if the borders are too long the trays will be dislodged.

The upper tray is tested by pulling lightly on the lips and cheek. If certain

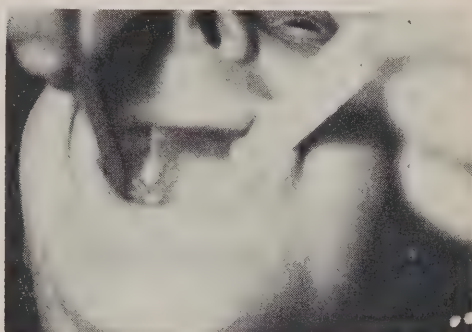


FIGURE 4

areas of the mucobuccal fold or the fraena dislodge the tray when pulling the tissue, it is relieved in those areas. Generous notches are made for the three fraena. The tray should cling to the tissues through surface tension although in some patients the retention is not very pronounced. The retentive forces of atmospheric pressure are harnessed by means of sealing the borders of the upper denture around its entire periphery. When the lips and cheeks fall into place over the borders and contact them, they are effectively sealed. Air will not enter underneath the denture. However, there are two areas which are difficult to seal at times. One is in the posterior region of the vestibule of the mouth; the other is at the junction of the hard and soft palates.

One of the first things to look for in a maxillary impression is the space between the tuberosity and the cheek (Figure 4). The writer has salvaged many an upper denture merely by filling in the hollow in this area. When resorption takes place at the tuberosity, a hollow frequently develops which is not sealed by the cheek. The buccinator muscle passes into the throat to meet the superior constrictor a little lower down and there are usually no fibres of the buccinator muscle present in that area. To effect a seal, the hollow, if it is present must be filled. Therefore some low-fusing green stick compound is soft-



FIGURE 5

ened and added to the posterior portion of the vestibule or the buccal aspect of the distal portion of the posterior flange of the impression tray. The patient is asked to purse the lips as if to say "Oh" and this compound addition is moulded. The compound may be reheated and the process repeated until a perfect seal is obtained.

The junction of the hard and soft palates presents a very mobile area which is affected both by eating and speaking. The denture should contact the area positively without impinging excessively. The tray is tested at the beginning by having the patient say "Ah". If a space develops behind the posterior border of the tray, it is overextended. If the palate moves distal to the posterior border of the tray, the tray is too short. If the tray is overextended it should be reduced. If it is too short it should be lengthened sufficiently by the addition of green stick compound. Compound is always traced on the posterior border for an effective seal (Figure 5). The patient is asked to swallow while the compound is soft. This tightens the tensor muscles of the palate, moulding the compound while the posterior portion of the tongue presses hard against the palate. This is usually quite sufficient. Some dentists also scrape the cast to accentuate the seal, but this should only be done in situations where muscle tone is weak.

The lower tray is tested next. The distal

border of the lingual flanges is checked by having the patient protrude the tongue. If the tray lifts, it is too long and must be reduced. Conversely if the tray ends anterior to the pear-shaped retromolar pad at the posterior end of the crest of the ridge, it is too short. The patient is next requested to touch the opposite cheek with the tip of the tongue. The tray must not lift. The patient is then asked to lick the upper lip in order to test the anterior lingual area of the tray. If the tray dislodges when the patient is asked to open the mouth widely, the mucobuccal fold is responsible and must be tested and adjusted by tugging at the cheek in several areas. The labial portion is similarly tested. If any area appears to be short, green stick compound is luted to the acrylic, tempered and moulded by having the patient suck and swallow.

The Final Impression

The final impression is made with the tissues as nearly as possible in a state of repose. The rubber base impression materials have been found to be an ideal medium for this purpose. They have body, yet crawl and will fill in every crevice without pressure. Another good feature is that the impressions may be laid aside for several hours. However, they should not be stored too long. Another advantage is that pieces do not chip away in transit as is sometimes the case with zinc oxide-eugenol paste. The regular grade impression material is employed in preference to the light or heavy grades.

The method is relatively simple. After the tray is seated it must be held with scarcely any pressure. This is important! Failure to observe this requirement is a most frequent cause of pressure lesions.

The patient is instructed to relax and to sit perfectly still. The entire impression surface is painted with an adhesive. A little more impression material than necessary is measured out. Seldom are less than four inches of the material squeezed out of the tube. The material is

spatulated with a stiff plaster spatula and the tray is loaded. The material is not smeared on the tray like a wash, but is loaded into the tray in excess so that enough of the material can overflow.

The tray is then inserted into the mouth, given a quick, hard push towards the tissues, and the pressure is released within one second. The tray is then held in position very lightly with the finger tips (Figure 6). Thin portions of excess impression material which are movable are cut away with scissors. All rubber impression material must be supported by the tray, otherwise it will be distorted when the casts are poured.

The post dam area must be trimmed to the edge of the compound impression material. The impression may be tested by reseating in the mouth. If bubbles or voids are present, they may be corrected by adding small quantities of rubber impression material, mixed on a slab, and reseating the impression in the mouth.

Selection of Teeth

Several different methods are advocated for the selection of teeth. In the main, selection should be determined by the dentist but the patient's wishes should not be ignored. The selection of teeth is largely a matter of personal evaluation of aesthetics. This statement is made with the full knowledge of several "scientific" methods for the selection of teeth. The truth is that the customary method of selection of tooth form and size is not in keeping with the laws of heredity. A person may have a large face inherited from one ancestor and small teeth inherited from another. A husky truck driver may have rounded teeth which some would consider as feminine. Anthropology and artificial aesthetic concepts are, as a rule, total strangers.

This does not rule out the fact that certain pleasing suggestions may be made about appropriate teeth for a variety of individual types. The subject is interesting and enjoyable and each dentist can, with the consent of the patient, express



FIGURE 6

his individual artistic temperament in the selection and arrangement of the teeth. Certainly, the stereotype systems should be ignored and individuality should be exercised in each case. The results will be a source of pleasure both to the dentist and the patient. A selection of mould guides from various manufacturers should therefore be maintained for this purpose.

Registrations

Fortunately, registration may be made from a relatively accurate starting point. Since the vertical dimension of the interocclusal space in rest position is constant, it is possible to procure a registration of centric occlusion at a positive vertical dimension. Centric occlusion may also be determined by means of a gothic arch tracing. The tracing is made by means of a tracer which is mounted on base plates in the laboratory. A preliminary recording of the vertical dimension is obtained in wax so as to facilitate the mounting of the tracer.

Three or four sheets of beeswax wrapped in a sheet of Tenax wax are softened in water at 120°F. While the wax is softening, two dots are marked on the patient's face with an indelible pencil, one on the tip of the nose and the other on the chin. The patient is told to relax limply. The distance between the two points is measured with a pair of dividers or Boley gauge (Figure 7). This distance records the rest position and is constant. To obtain the interocclusal distance in centric occlusion, the reading on the div-

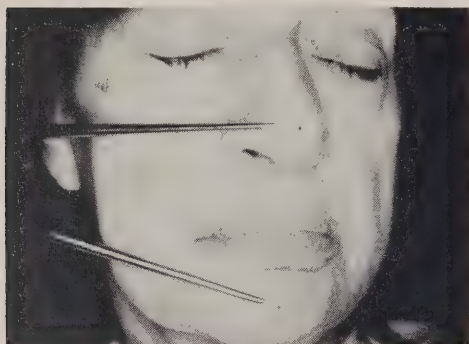


FIGURE 7

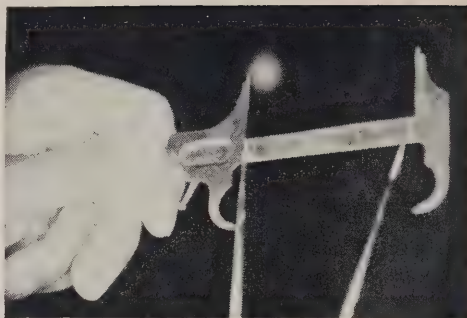


FIGURE 8

iders or Boley gauge is reduced by about $2\frac{1}{2}$ millimetres and the dividers are set to this new reading. This $2\frac{1}{2}$ millimetre reduction represents an arbitrary measurement of the freeway space. In older persons it should be greater (Figure 8).

A horseshoe rim of the previously softened wax is then inserted in the mouth and the patient is instructed to relax. The mandible is gently guided to close into the wax until the points of the dividers coincide with the dots on the nose and chin.

Laboratory Procedure

The wax is chilled, removed and sent to the laboratory (Figure 9) where the

casts, which have been poured in stone, are mounted upon a plane line articulator using the wax bite.

Base plates for the gothic arch tracer should fit well and should be sturdy. Tin foil, burnished to the cast and then cemented to the base plate with a thin mix of base plate acrylic, imparts the desired strength (Figure 10).

There are a number of intraoral and extraoral gothic arch tracers available nowadays. The writer uses the intraoral type. The McGrane tracer is used at the Mount Sinai Hospital. In his private practice, the writer uses either the McGrane tracer or the Coble Balancer. The latter



FIGURE 9

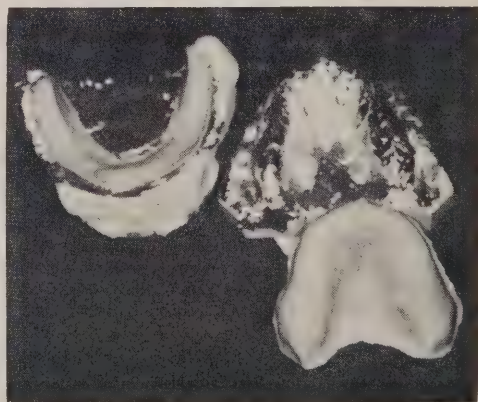


FIGURE 10



FIGURE 11

is a valuable adjunct to complete denture service and is chiefly used in balancing the occlusion after the dentures are completed. However, it may also be used as a gothic arch tracer. The tracer consists of a stylus and a platform. The stylus rests on the platform at about the centre of the lower denture area so that the denture bases do not tip. This is approximately in the middle of a line joining the contact points of the second bicuspid and first molar of each side of the lower base plate (Figure 11).

Setting the Upper Anterior Teeth

The upper six anterior teeth must be set in the mouth by the dentist. However, the laboratory may tentatively set up the upper anterior teeth on a separate base plate. This also must be sturdily made to facilitate moving and arranging the teeth. If the ridge is very prominent, the labial flange may be left off but there must be enough wax and enough base plate material on the lingual aspect of the teeth to permit easy manipulation by the dentist.

The dentist alone and not the technician can place the upper six anterior teeth in their correct position. This is the most important procedure from the standpoint of aesthetics and it is from this beginning that other factors of appearance develop. The lips, both upper and lower, and all the facial muscles which radiate from the

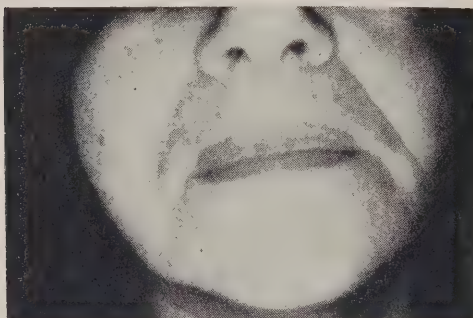


FIGURE 12

lips and contribute fibres to the orbicularis oris are directly and indirectly affected by the placement of these teeth. The upper anterior teeth not only help to position the upper lip but affect the position and form of the lower lip. They can be made to carry the upper lip forward and by their slant may be responsible for the amount of the red portion of the lip showing, or its fullness. Often, by placing the teeth too far to the lingual the impression is created that the patient is not wearing his teeth. Also, a lesser amount of red is displayed. The proper placement may also influence the curl of the lower lip, helping to create that natural concavity known as the labio-mental groove. With some denture wearers it is converted into a tell-tale convexity (Figures 12 and 13).

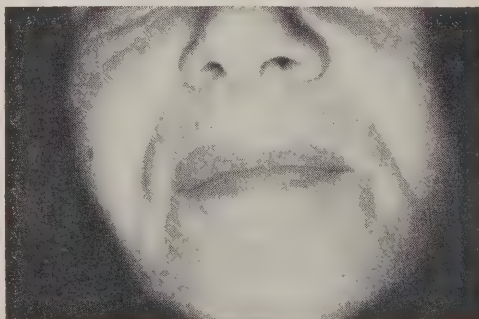


FIGURE 13

The dentist rearranges the teeth to suit the aesthetic requirements and gives the technician a proper start for setting the remaining teeth (Figure 14). If the upper anterior ridge is bulky, the technician is instructed to make the labial flange in wax so that the teeth may be set closer to the ridge if necessary. Sometimes the necks will have to be ground. The dentist must train himself to do this portion of the procedure. It is not only necessary, but after some practice, becomes enjoyable because it is creative. A variety of arrangements may be tried. This is done at the third visit when the registrations of vertical dimension, centric occlusion and the face bow transfer are made.

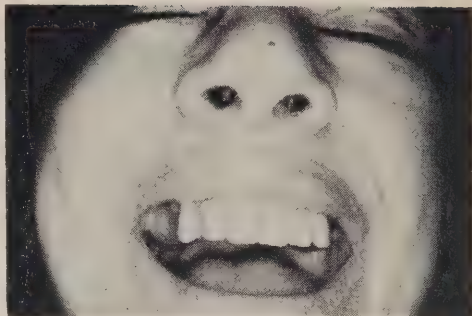


FIGURE 14

(To be continued.)

Convention Addresses — 1961

Presidential Address

J. P. WHYTE, D.D.S., Swift Current, Saskatchewan

For a number of years it has been obligatory that the president prepare an address for this Canadian Dental Association luncheon. The president has spoken during the visitation itinerary at every major point in the various provinces; he has also written the Executive Council report of some twenty pages, as well as the president's report of about the same volume for the Board of Governors' meeting. It would seem logical that these efforts were sufficient. I am sure you will be glad to know that time is the governing

factor for this address and time is running out.

Personally the year has been a most pleasant one, but not without its problems. Having the opportunity of crossing Canada from ocean to ocean and seeing organized dentistry from many levels has been enlightening and profitable. The warm hospitality of the individual members and the opportunity of renewing friendships formed during service days overseas was a delightful experience. The most gratifying observation was the keen interest that the younger members are taking in their profession, seeking to keep abreast of the times, and working earnest-

ly for future improvements and scientific advancement.

This being the national organization's official annual luncheon, it is my pleasure on behalf of the Canadian Dental Association to welcome each of you sincerely, and on your behalf to thank Dr. F. A. Fernet, general chairman and Mrs. Mildred Smith, and their hard-working and efficient committees for the splendid arrangements for our business sessions and social enjoyment.

At this meeting, the announcement of the results of the Canadian Dental Association War Memorial Award is made public. The prizes are made possible by a fund donated by Canadian dentists to honour their colleagues who made the supreme sacrifice in two world wars. First and second prizes are given to the two best essays written by senior dental students from Canadian universities.

This time for the second consecutive year, both prizes were won by members of the graduating class of McGill University. First prize was won by Ronald Fletcher and the second prize by George Saleh. The title of the essays was "An Appraisal of Antibiotic Therapy in Dentistry".

SOCIAL CHANGE

Philosophers, thinkers and policy makers are concerned today with the accelerated, rapid, changing pattern of our way of life. Sir Richard Livingstone, creative thinker, has said: "This is the most difficult age in history". We all realize, despite our too busy lives, that immense changes have been wrought during the past generation, manifested by rapid scientific and technical advances in a changing national and international world community, with resulting effects on our way of life. Men and women of science, some famous, some unknown, have achieved these miracles. Speed of communication and transportation has caused the world to grow small. In manufacturing, accounting and railway transportation to mention a few, the

science of electronics, widely applied, has brought in the "age of automation". Shorter working hours, lesser manpower requirements, and more leisure time are also accompanied by the problem of adjusting the resultant displaced worker. Progress in agriculture has made it possible to grow more food and raise more livestock, again with lessened manpower on our farms. Movement from rural districts to towns and cities, movement from one urban centre to another, more years of school education and continued study later on, more jobs for "white collar" workers, ease of travel, and the mass impact of news media such as radio, films and television are some of the factors changing family and community life.

These and other advances are having a striking effect on our social structure, creating new concepts of living and an insistent demand for increased security. Will many of these accelerated changes leave us poorer with the decline of that solid foundation of life, individual responsibility?

To come closer to our own profession and the part we may be called upon to play in the provision of health services, certain factors must be considered. The demand for more social security is clearly evidenced in the broader horizon and area envisaged by our governments in very recent developments.

The federal government has announced the establishment of a Royal Commission on Health Services, obligated to an intensive investigation of the entire field. At a very recent rally the Liberal Party, as the official opposition and an integral segment of our democratic government, voted in favour of a vast, comprehensive national health insurance program, including dental care. A prominent member of the New Party offered a "cradle to the grave" welfare state program at a recent public meeting in Victoria. These positive actions merely indicate the prevailing trend towards more and more social security.

Fourteen years ago only one province had compulsory hospital insurance in operation. Today all Canada has a national

hospital insurance plan.

It is quite possible that perhaps sooner than we think, some form of national health insurance plan, including dental care, may come into being.

The individual obligation of the dentist is clear. He is to provide ethical, efficient and scientific dental treatment to his fellow man. To accomplish this he must also safeguard certain basic principles of practice while continuing to render sincere and honest service. The leadership required must come from within our own profession. To be forearmed, study and the development of definite plans should begin now; if we adopt a policy of watchful waiting others less competent will establish a course of action which might prove difficult to accept.

Harold Hillenbrand, secretary of the American Dental Association, in a recent address said in effect that he did not fear the question of negotiation and mutual study with any group, government or union, on prepaid dental plans, but rather the attitude of some members of our profession who brushed off any proposed change in the "status quo" with the "wolf cry" of "socialism".

Our profession cannot, like the ostrich, bury its head in the sand and refuse to look and think.

Dental disease is no respecter of persons. The rich and the poor are affected alike. Dental caries is a universal malady to such an extent that it is now recognized as a major public health problem. If the incidence of dental caries is to be reduced the place to start is at the bottom and that is with the children. If prepaid dental health programs are instituted by provincial or federal governments, the benefits should be confined initially to children, regardless of income. Therefore the primary objective of any dental care program introduced in this country must be to preserve the level of dental health accorded the child at birth.

It is not the intent of this address to discuss the details of operation and administration of any such plan. Two important policy requirements, nevertheless,

must be considered if the whole-hearted co-operation of the dentist is to be obtained. Firstly the plan should be administered by a dental service corporation; secondly the fee schedule should be established by the dental profession and the remuneration should be on a fee for service basis.

DENTAL MANPOWER

It is true that at the moment, the shortage of dentists precludes any governmental program; nevertheless plans for the future should be developed now, and not when the occasion demands.

The ratio of dentists to population worsened slightly from last year's 1:3,018 to the present 1:3,027 for all Canada. The picture of manpower in some provinces is gloomy indeed. New Brunswick has a ratio of 1:5,000 and Saskatchewan a ratio of 1:4,643. The bright spots are Ontario with a ratio of 1:2,423 and British Columbia with a ratio of 1:2,426.

The larger urban centres in practically all provinces have reasonable dental service coverage, the greatest need being evident in the smaller towns serving rural areas.

If more dentists are needed and the capacity of all our training facilities can only produce 327 graduates per year, then it follows that more dental schools must be provided.

Dental training and the establishment of dental schools is not at present a federal responsibility. If a dental manpower crisis is developing then it must be solved on a national basis. Co-operation of the federal government in the matter of construction, maintenance and administration costs must be obtained. A parallel criterion can be examined in the United States where President Kennedy has advocated federal aid for the construction and maintenance of new dental schools as well as financial aid to dental students.

To be consistent a committee must be set up by the Association to investigate,

prepare statistics and formulate a plan for federal co-operation in the establishment of more dental schools.

In this regard the action of the British Columbia Dental Association taken at the annual convention at Kelowna in May, is significant. A motion from the floor was passed to set up a voluntary fund to aid in the establishment of a dental faculty at the University of British Columbia. This desire on the part of the profession for increased dental service for the public cannot be judged other than being altruistic and unselfish.

FLUORIDATION

For many years the dental profession has given wholehearted support to fluoridation of communal water supplies as one of the best methods of preventing dental caries. The Canadian Dental Association at its annual meeting has reiterated its supporting stand year after year.

In March of this year the report of the Ontario Fluoridation Investigating Committee, under the chairmanship of Mr. K. G. Morden, a Justice of the Supreme Court of Ontario, submitted its report after two years of study. The report was positive, declaring fluoridation safe, effective, legal and economic. The Ontario government reacted quickly, enacting legislation empowering municipalities to introduce fluoridation of water supplies by by-law without the necessity of a referendum.

This action of the government of the largest and most populous province, by its precept and example, will doubtless assist in the long-range program for prevention. It is a definite victory for the profession, demonstrating that continued and active efforts, when you believe your cause is just, eventually bring their reward.

DENTAL MECHANICS

For years efforts have been made by dental mechanics in some provinces to have legislation passed enabling them to

perform all phases of prosthetic dentistry directly for the public. This contention has been opposed by the dental profession, the argument being based upon the lack of education, training and professional ethics necessary to perform operations in the oral cavity.

The province of Alberta, despite the strenuous opposition of the profession, passed legislation permitting dental mechanics to deal directly with the public in all phases of full denture prosthodontics. A certificate of oral health is required, signed by a dentist or physician. The title of the mechanics organization was changed from the proposed "Denturist" to "Dental Mechanic" appellation. The society will come under the jurisdiction of the provincial Department of Labour instead of the Department of Health.

The premier of Alberta subsequently commented that the bill was a symbol of the evolution now taking place. There was a gap between the highly trained professional man and the rank and file. In his opinion there was a need for an intermediate group, so that the time and experience of professional people would not be used unnecessarily.

At the moment this is the only act of this kind in operation. It is not in harmony with the expressed policy of the Canadian Dental Association.

In British Columbia a court has invalidated the regulations made in 1960, granting licenses to a certain group of dental mechanics to deal directly with the public. The court based its action on the finding that the regulations were unduly restrictive and discriminated against the whole group of dental mechanics. No comment was made regarding the fact that in order to qualify under the old act, a dental mechanic must have been breaking the law for seven years.

Thus flows the changing pattern in political thinking. We are living in the age of the common man; pressures from below are becoming more and more evident. It therefore behooves the profession to become realistic and practical in all its approaches to the problems confronting

us. We must find our strength in applying our own principles of research, dental education, more efficient office practice

and plan for the future. In true principles never abandoned, lies strength.

Bradbrooke Block

Greetings from the British Dental Association

C. L. ENDICOTT, D.D.S., F.D.S., Dip. Orth., London, England

It is a privilege and a very real pleasure for me to extend to you, and your Association, most cordial greetings from the president and members of the Council of the British Dental Association. It is earnestly hoped, and confidently anticipated, that your meeting will enjoy outstanding success.

As a Canadian who wandered far from his native Prairies many years ago, an associate member of your Association, and full member of the British Dental Association, I find myself in a situation both perplexing and unique. Having taken little part in British Dental Association affairs during the past four years for personal health reasons, (in no way associated with National Health), an invitation to represent the British Dental Association at your meeting came as a pleasant surprise.

On reflection, the British Dental Association appears to have been narrowly restricted in its choice of a representative from among those attending your meeting. Honoured as I am to perform this important duty, I am duly conscious of the limited choice, as well as of my inability to do this full justice.

It is about twenty-seven years since I inhaled the air of these vast and wonderful open spaces, which I first deserted nearly forty years ago, enrolling as a

student in Toronto. It has been a thrilling experience to return to the province and country where I was born. It has made me wonder why I ever left. Wide and rapid development is evident in every direction. This is also my first visit to your delightful city, with its fine university and warm hospitality.

Another thrill for me was our class reunion, held during the recent meeting of the Ontario Dental Association in Toronto. Many of my classmates who attended, I had not seen for thirty-five years. That, and your meeting here, have enabled me to meet many old friends, and to make new friends. I have been fortunate indeed.

Attendance at these meetings has enabled me to gain additional information regarding the problems facing your Association and its members. They seem formidable, but in my humble view, not impossible to solve, providing the profession unites solidly behind, and provides full support for your elected and appointed leaders. Equally important seems the need to be prepared and to be ready to face all possible problems squarely. Informal discussions have convinced me that you have succeeded in attaining a high degree of preparedness. For this I congratulate you. Nevertheless, I appreciate that a great deal remains to be done. No

one is more aware of this than is your highly competent secretary, Dr. Gullett. He enjoys the same respect and admiration from the leading members of the profession in Great Britain as he so deservedly enjoys here in Canada.

Perhaps I should explain briefly my own position, before making a few purely personal observations on the government dental health services in Great Britain. Like a number of my friends, I do not participate in the scheme in any way. My orthodontic practice is, and has always been, strictly private. I have no axe to grind. My sole object is to be helpful if possible, and to eliminate a few of the misunderstandings.

Strictly private practitioners outside the scheme represent a small, but slowly growing proportion of the profession. Participation in the scheme is not compulsory.

At inception, the vast majority of the profession unexpectedly entered the scheme, which was then highly attractive. This was contrary to the official stand taken by the British Dental Association as a result of a vote submitted by each section or district. Panic was by no means absent. The scheme has since been modified several times. The majority, on the whole, have, I believe, done sound work under the scheme, but of course, a small minority of "black sheep" have been exposed. Naturally they receive the publicity. Unfortunately they stimulate the need for modifications, including increased controls. Dissatisfaction has therefore increased, but I do not know if it is widespread. In some quarters it is strong.

A sharp increase in demand for treatment placed a heavy burden on an undermanned profession. It is no longer necessary for a patient to neglect his teeth because of cost, a factor which merits emphasis. Controls also became essential in order to check abuses by many patients. Long waiting lists for appointments have become commonplace. My personal impression is that the dental profession, in general, is more prosperous than ever

before. This is no doubt due, in part, to the remarkable industrial recovery with overfull employment. Associated with this is an increased demand for private treatment outside the scheme by those who can afford it and are not prepared to wait. I understand that many practitioners now set aside one or more days for the treatment of private patients, and that the proportion of practitioners doing this is increasing steadily. There are many others who prefer to work entirely within the scheme.

A few dental auxiliaries are being trained in courses given by members of our profession. There is, naturally, much opposition to this trend, a result of the shortage of dental personnel. I offer no opinion on this experiment, but I am not opposed to seeing it given a fair trial. It seems to me much will depend on the guidance exercised by our colleagues chosen for this responsibility. These dental auxiliaries can at least be under the control of our colleagues, and they will have received training.

The dental schools are all filled to capacity. I have been told that over ninety per cent of our dental students are partially or fully subsidized. Several schools are being, or are about to be rebuilt, and one new school is nearing completion. Public appreciation of the importance of dental health has increased with great rapidity. I question if these developments would have taken place so rapidly without the introduction of the National Health Service.

Criticism of this or any health service which could be conceived, can be made readily. The cost is tremendous. Perhaps the most unfortunate criticism is that the more conscientious dentist does not receive the greatest monetary reward. Even this is overshadowed by the fact that a service of this nature is usually offered to the public in exchange for party votes.

The importance of preparedness can scarcely be over-emphasized. Prevention is our modern objective, but we must still receive thorough preparation for dealing

with all forms of dental ailments. A united and alert profession can, I believe, deal with any problem with a high degree of rewarding success.

In conclusion, I wish to express my

thanks and appreciation for your courteous attention, and for the many kindnesses I have received.

19 Cavendish Square

Greetings from the American Dental Association

F. A. PIERSON, D.D.S., Lincoln, Nebraska

It is a pleasure to be here. I bring with me cordial greetings from every member of the American Dental Association and their best wishes for the success of your meeting.

As you may be aware, the newspapers and magazines in the United States have lately been featuring prominent stories about the present relationship between your nation and mine. Some of the stories call attention to what they feel is a lessening of the close friendship that once bound us.

To the extent that this is true, each one of us must be concerned and anxious to do what we can to "mend fences." But without being boastful, I think that we North American dentists have set an example in this regard that other professional and business groups could afford to emulate.

In my experience, the relationship between the Canadian Dental Association and the American Dental Association has been marked by mutual respect and understanding.

It is, of course, fitting that this should be so. A profession properly knows no boundaries. A dentist serves those who are in need and there is no place in the practice of dentistry for narrow vision or petty motives.

It was approximately one year ago that the executive boards of our two groups met in joint session in Toronto. It was the first joint meeting in the history of the two associations. Having been privileged to attend that meeting, it has ever since symbolized for me the substantial benefits to be gained from co-operation.

At that Toronto meeting, one of the common challenges we discussed was that of the training of dental auxiliaries. In the time since, this aspect of dentistry has assumed even greater importance.

I should like, consequently, to take a few minutes of your valuable time to report on what we have been doing in the United States to meet the challenge.

First of all, let me say it is quite apparent to us in the United States that we are not isolated socially, economically or politically from our neighbours, be they near or far. What happens in any one country ultimately has an overflow effect in others.

There have been for some time pressures in the United States to license the so-called "denturists"; in effect to legalize their bootleg operations. The American Dental Association and its state and local societies have fought these pressures with every legal means as a serious threat to the public health.

With these complex problems in mind—both abroad and at home—the association's House of Delegates at its 1960 annual session adopted a report stating that the dental profession and dental schools in this country must be prepared for the increased need of additional dental personnel in the future.

As one means of meeting this need, the House requested dental schools to consider programs under which an increased number of dentists and dental auxiliaries could be trained. Additionally, the House adopted the following resolution which I should like to read to you in full:

Resolved, that the Council on Dental Education be requested to urge accredited dental schools, including the training activities of the federal dental services, to undertake carefully designed programs of experimentation and research in the training of dental hygienists and dental assistants so that the profession may determine more precisely their individual roles as members of the dental health team and thus enlarge the dental profession's capacity for service to the people of this country.

As a result of this directive, the Council plans to hold a conference later this month in co-operation with the University of Michigan and the American Association of Dental Schools. Invited to participate will be representatives from the constituent dental societies, the state examining boards, the American Association of Dental Examiners, and the national organizations of dental auxiliary personnel. The objectives of this important conference are:

1. To analyze the present functions of dental hygienists and dental assistants and the contributions which these auxiliaries are now making to the dental profession.

2. To review the dental practice acts and their influence on the function of

dental hygienists and dental assistants.

3. To develop a statement of principles describing the professional duties and responsibilities of the dentist, including the consideration of a list of functions which are entirely professional in nature and could not be delegated to non-professional personnel.

4. To suggest a list of duties for dental hygienists and dental assistants which might be the subject of experimentation in the dental schools and federal training agencies.

5. To identify general guidelines for experimentation.

6. To outline the variety and amount of financial support needed by those dental schools wishing to conduct experimental studies on the utilization of auxiliary personnel.

The Council anticipates that the conference will make it possible to submit a detailed report to the 1961 House of Delegates with additional recommendations for activities in this most important area.

While working toward a solution in our own country, we have, of course, been paying close and sympathetic attention to your parallel efforts here in Canada.

Let me close by noting that the future of dentistry in North America depends heavily upon the decisions our nations make in this area. So long as our two groups continue working side by side, so long as we continue to understand that the good of the patient is our paramount concern, then I feel we have every reason for prudent optimism.

Once again, may I convey the good wishes of my colleagues in the United States. I am deeply grateful for the hospitality that has been extended to me and hope in the coming years I will have the opportunity to see many of you again both in your nation and in mine.

2734 Laurel Street

EDITORIALS

C.D.A. Annual Meeting - 1961

For the second time in twelve years the Canadian Dental Association has held its annual meeting in Saskatoon. This attractive city, which straddles the mighty South Saskatchewan river, is situated near the geographic centre of the more populated portions of the Prairie provinces. Saskatoon is fortunate in having accommodation of an excellent nature at its disposal and there can be few cities so agreeably located for a meeting of dentists from the Pacific coast to central and eastern Canada. Small wonder that the fine accommodation, the excellent scientific program and varied social activities were taxed to the limit. This convention will doubtless be long remembered and may well mark a further milestone in the history of these events.

The meeting of the Board of Governors which preceded the convention marked the climax of an eventful year for the dental profession in Canada. It has been a year of intense political ferment marked by a growing realization that the destiny of the Canadian dentist is being increasingly influenced by the quickening pulse of the social and political currents of the day.

These past eight months have witnessed several events of outstanding significance to dentistry. First there were the recommendations of the College of Dental Surgeons of Saskatchewan to the Advisory Planning Committee on Health Care in that province which is preparing to embark on a comprehensive health insurance scheme. Next came publication of the long awaited report on the Survey of Dentistry in the United States which will likely set many trends in the future of dentistry. This was closely followed by another influential report, that of the Ontario Fluoridation Investigating Committee. In April 1960 the Alberta legislature enacted the controversial Bill 59 which permits dental mechanics to deal directly with the public of that province in the provision of complete denture service. Almost simultaneously the British Columbia Supreme Court invalidated the provision of special licenses for dental technicians in the most westerly province, not out of sympathy with the views of the profession as some would believe, but because limitation of the licenses for certain technicians constituted an infringement of the rights of other dental tech-

nicians to develop and occupy their special talents, and because it deprived the public in the future of its right to receive these services after the present special licenses have ceased to exist. Obviously there will be further action as a result of this decision. And on the national level Prime Minister Diefenbaker announced the establishment of a Royal Commission on Health Services to make a thorough study of the adequacy and availability of personal health services in this country.

This was the background for the deliberations just concluded in Saskatoon, a background which emphasizes that in determining the future pattern of dental care, the wishes of the public and of governments are not to be ignored. Elsewhere in this issue of the *Journal* will be found a digest of the more important actions taken by the Board of Governors. Underlying these considerations is the unspoken concern that the future dental services will be the best that our knowledge, skills and resources can provide.

The further problem of increasing the availability of high quality dental services to the public at reasonable unit cost presents the most immediate challenge to the dental profession, one of which the dentists of western Canada are probably more acutely aware than are their confreres in other parts of the country.

Yet the events which occur in one part of the country will have inevitable repercussions in others and no one can afford the luxury of living in a mythical world of isolation. Enlightened guidance and direction from the profession at large are essential to assure the proper continuation and expansion of dental services everywhere in Canada. A clear, dispassionate and non-doctrinaire approach, founded on thorough understanding of basic issues, is essential for this purpose. The detailed deliberations of the Board of Governors will shortly appear in the 1961 *Transactions* and every dentist is strongly urged to familiarize himself with their content at the earliest opportunity.

Canadian Dentistry Thanks the Kellogg Foundation

The W. K. Kellogg Foundation of Battle Creek, Michigan is an institution dedicated to the promotion of health, education and welfare of mankind and of children and youth in particular. The Foundation administers funds for the support of nonpartisan, nonprofit educational, agricultural and health activities in the public interest. As stated by Emory W. Morris, president of the Kellogg Foundation, "the efforts of men know no boundaries," and assistance from the Foundation has been truly international

in scope encompassing North America, Latin America, western Europe and Australia. Of the forty assisted countries in five continents, Canada for example has received more fellowship awards from the Foundation than any other country except Brazil.^{1,2}

Since 1942 the Foundation has offered grants to nearly all United States and Canadian schools of dentistry, medicine, public health, and nursing for student loan and scholarship purposes. In most instances, the loan funds contributed by

the Foundation have been actively used ever since their establishment and maintained on a revolving basis.

The demobilization of dentists following the end of World War II accentuated the need for developing facilities to provide refresher and postgraduate education for members of the dental profession. Beginning in 1946, the Universities of Montreal and Toronto were among ten United States and Canadian dental schools which have received aid for this purpose from the Foundation. The funds have been used primarily to provide the additional teachers, administrative and clinical personnel and equipment required for these programs of continuing education.

The Foundation's Canadian fellowship program is designed to enable qualified individuals to undertake study and observation in the United States and thereby contribute to the quality of health care in Canada. In 1947 the first fellowships were awarded under this program to four dental teachers to assist in strengthening the teaching programs of their dental schools. Of 160 fellowships granted to Canadians between 1937 and 1959, 29 have been awarded in dentistry.

Prior to 1947, provincial health departments had given little consideration to dental health. When the Manitoba Dental Association, the Manitoba Department of Health and Public Welfare and the Canadian Dental Hygiene Council sought funds for a pilot dental public health program that year, the Foundation extended the requested aid. Included was a fellowship to provide graduate training in public health for the dentist who was selected to direct the program. The broader purpose—that of building an effective program which could serve as a pattern and stimulus for the development of similar programs in other provinces—was undoubtedly achieved.

When in 1950 the Council on Education of the Canadian Dental Association proposed a program of inspection, consultation and accreditation for Canadian dental schools, the Foundation agreed to pro-

vide financial assistance. Subsequently a team of consultants visited the dental schools at the Universities of Alberta, Montreal, and Toronto and at Dalhousie and McGill Universities, to review all aspects of the educational programs and to discuss their findings with the university and dental faculty officials. In 1956 the consultants and the Council recommended to the Canadian Dental Association that each of the schools be accredited. Reciprocal accreditation of Canadian and American dental schools followed soon thereafter. Continuing assistance from the Foundation has enabled the Council on Education to sponsor further visitations of a part-time educational consultant to the six existing dental schools to advise on problems relating to curriculum, teaching methods, faculty organization, financing, and student evaluation. Formal re-accreditation visits by a consultant team now occur every five years, with informal advisory visits by the educational consultant on a biennial basis during the interval. Every one of the dental schools has been strengthened as a result of this program. To help some of the schools to carry out the recommendations of the survey and consultation program, the Foundation has made further commitments primarily to permit the employment of additional full-time staff members. At Dalhousie University aid was also given toward the cost of the new dental building and equipment, and to encourage the concept of regional support for dental education by governments of the four maritime provinces.³

In 1951 the Foundation helped to initiate Canada's first program to train dental hygienists at the University of Toronto. Financial aid was used for the acquisition of additional teaching personnel, equipment, and administrative services required for the development of the program.

The Foundation has also supported several conferences of major significance in dentistry. Foremost among these was the 1953 Saskatoon conference of university authorities, government officials and dental leaders in Alberta, British Columbia,

Manitoba and Saskatchewan, to encourage regional planning for the western provinces. Between 1955 and 1957 assistance was extended to four teacher-training conferences sponsored by the Canadian Dental Association and conducted by the dental schools in co-operation with leading Canadian schools of education. These conferences provided the basis for continuing faculty in-service education programs within the participating dental schools.

The Kellogg Foundation has committed a total of \$547,296 for the benefit of Canadian dentistry since 1942. Of this allotment, \$482,782 have been spent. The size of the financial commitment does not

necessarily indicate the full import of the activities implemented by the funds. For instance only \$11,594 was necessary to subsidize the dental school evaluation and accreditation program, yet this investment in the future of dental education has influenced noteworthy improvement in each individual school. For all these generousities and the spirit in which help was given, Canadian dentistry acknowledges a debt of heartfelt gratitude to the W. K. Kellogg Foundation.

REFERENCES

1. W. K. Kellogg Foundation. Annual Report, 1959.
2. W. K. Kellogg Foundation. Programs Assisted in Canada, January 2, 1960.
3. W. K. Kellogg Foundation. Annual Report, 1960.

Joint Meeting

THE CANADIAN DENTAL ASSOCIATION

and

BRITISH COLUMBIA DENTAL ASSOCIATION

June 3 - 6, 1962

Queen Elizabeth Theatre, Vancouver, British Columbia

BUREAUX, COMMITTEES AND COUNCILS

The Relationship of Dental Auxiliaries to Increased Productivity and Income

Bureau of Economic Research

GROSS INCOME AND PRODUCTIVITY

The 1953 and 1958 C.D.A. *Surveys of Dental Practice* show that the more employees a dentist has the higher his gross income is likely to be. This is not surprising, for gross income is a rough measure of productivity. It has been shown in several time studies of dental operations that the productivity of a dentist working with auxiliaries is considerably greater than one working alone.

Table 1 gives 1953 and 1958 average gross incomes according to the number of persons a dentist employs. If it is assumed that the dentist with employees charges no more than the dentist working alone, then the former's greater gross income is in direct relation to the greater number of treatment services he provides.

In Table 1, the base for the index of gross income (and therefore of productivity) is the dentist with no employees. His index number is 100. The dentist with between 2.5 and 3.4 employees had an index of 248 in 1958. This leads to the conclusion that he gave

almost two and one-half times as many treatment services as the dentist working without assistants.

AUXILIARIES AND NET INCOME

Net income as well as gross income rises with the number of persons employed. In both 1953 and 1958, the dentist with two employees earned twice as much as the dentist with no employees (Table 2 and Figure 1).

AUXILIARIES AND PRODUCTIVITY

The use of auxiliaries has contributed substantially to the number of dental services provided by the dental profession as a whole. From the 1953 and 1958 surveys, it is possible to estimate the percentage of dentists having various numbers of employees. If the percentages of dentists in each dentist-employee group is multiplied by the index of produc-

TABLE 1. Average gross income and index of productivity, 1953 and 1958, by number of employees

Number of Employees	1953		1958	
	Average Gross Income	Index of Productivity	Average Gross Income	Index of Productivity
0	\$ 8,570	100	\$10,758	100
0.1-0.4	11,756	137	15,591	145
0.5-1.4	14,922	174	19,652	183
1.5-2.4	19,364	226	25,313	235
2.5-3.4	20,414	238	26,668	248
3.5 or more	25,319	295	27,028	251

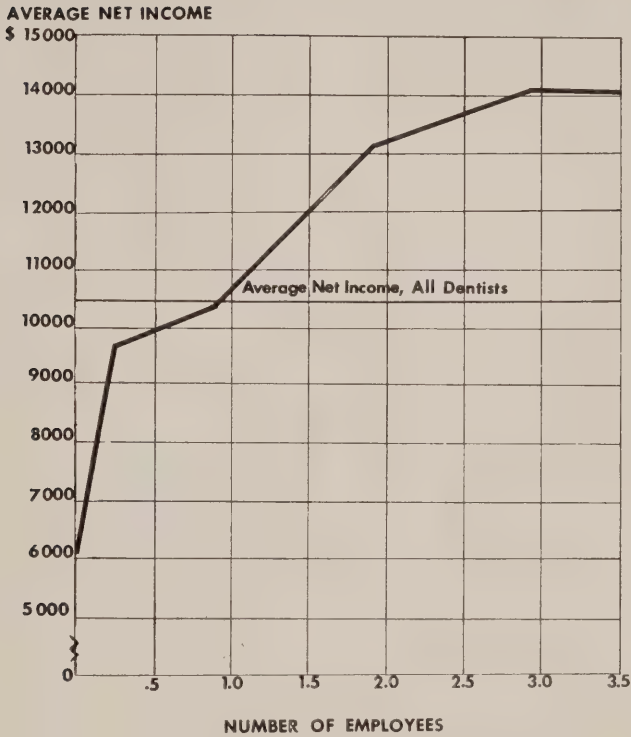


FIGURE 1

Average net income rises with number of employees.

TABLE 2. Average net income, 1953 and 1958, by number of employees

Number of Employees	Average Net Income	
	1953	1958
	\$	\$
0	4,700	6,096
0.1-0.4	7,052	9,560
0.5-1.4	7,719	10,302
1.5-2.4	10,223	13,236
2.5-3.4	10,169	14,056
3.5 or more	13,199	14,054
Average, all dentists	7,541	10,453

TABLE 3. Per cent dentists employing auxiliaries and weighted indices of production, 1953 and 1958

Number of Employees	1953		1958	
	Per Cent Dentists Employing	Weighted Index of Production	Per Cent Dentists Employing	Weighted Index of Production
0	19.1	19.1	12.9	12.9
0.1-0.4	18.3	25.1	3.4	4.9
0.5-1.4	55.1	95.9	72.1	131.9
1.5-2.4	7.5	16.9	11.6	27.3
2.5-3.4	...	...	...	...
3.5 or more	...	...	...	...
All dentists	100.0	157.0	100.0	177.0

tion for that dentist-employee group an index of total production for all dentists is arrived at. If all dentists had practised alone, the total production index would have been 100 in both 1953 and 1958. But, since some dentists employed auxiliaries and provided

more treatment services, the index was 157 in 1953 and 177 for 1958. Therefore as a result of the use of auxiliaries, production was 57 per cent higher in 1953 and 77 per cent higher in 1958 than it would have been had all dentists worked alone.

"The freedom of the person protected by common law and numerous statutes is, broadly speaking, the individual's right to be unrestrained except in accordance with law and was proclaimed as a protection against arbitrary arrest and detention. Interference with bodily integrity, apart from lawful restraint and punishment, has become a political and social problem only in recent years. The rapid increase in medical knowledge and the growth in responsibilities of public health administration has brought the problem to the fore. Public opinion now accepts and demands the continuance of such compulsory public health measures as chlorination of drinking water, pasteurization of milk, vaccination and the treatment of venereal diseases, to mention only a few . . . If fluoridation were introduced, the range of the individual's freedom to exert his mind and body in his own interests, to communicate his ideas and to combine with others in lawful pursuits would not be affected or curtailed. If the legislature authorized fluoridation in the exercise of our democratic process, the objectors will of course be disappointed but they will be free to renew this argument by speech, pamphlets and public meetings with the hope that the legislature might be persuaded at a later date to alter its decision."

Report of the Ontario Fluoridation
Investigating Committee, 1961.

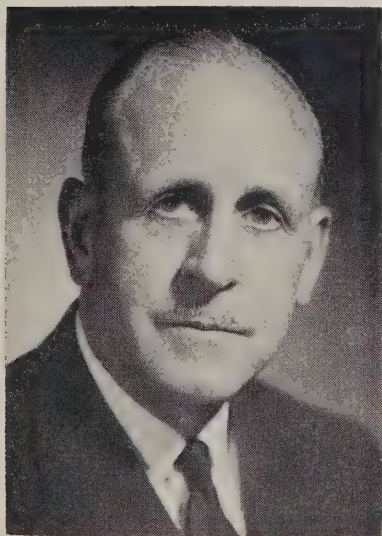
DENTISTRY IN THE NEWS

The Association

WILLIAM MILLER INSTALLED AS PRESIDENT

Dentists from every province in Canada attended the 60th annual meeting of the Canadian Dental Association in Saskatoon, June 4-7. Dr. C. L. Endicott of London, England represented the British Dental Association, and Dr. F. A. Pierson of Lincoln, Nebraska was the official representative of the American Dental Association.

The annual meeting of the Board of Governors, held from May 31 to June 3, preceded the convention. The convention delegates were welcomed by Mayor S. Buckwold.



WILLIAM MILLER

president of the Canadian Dental Association.

M. V. J. KEENAN



*Credit:
Sudbury Daily Star*

At a noon luncheon on June 5, William Miller of Vancouver was installed as president of the Association, succeeding J. P. Whyte of Swift Current, Saskatchewan. A graduate in dentistry from the University of Oregon, Dr. Miller has been in general dental practice since 1926. He was president of the Vancouver and District Dental Society in 1933-34, the British Columbia Dental Association in 1938, and the College of Dental Surgeons of British Columbia from 1955 to 1957. M. V. J. Keenan of Sudbury, Ontario was named president-elect of the Association. Dr. Keenan has been a member of the Board of Governors, representing the Royal College of Dental Surgeons of Ontario.

Honorary membership in the Canadian Dental Association was conferred on Arthur Alan Blair Kenney of Maple Creek, Saskatchewan, a practising dentist since 1915.

The Western Canada Dental Society was the host organization for the joint meeting. Convention arrangements were made by members of the Saskatoon Dental Society.

ACTIONS OF THE BOARD OF GOVERNORS

At the opening of the 1961 meeting of the Board of Governors in Saskatoon, the members stood for one minute of silence in memory of Association members who died during the past year.

The following are among the more impor-

tant actions taken by the Board:

The Committee on Auxiliary Services was requested to prepare for the next annual meeting a projection of its activities relative to the role of dental auxiliaries.

Amendment of the terms of reference of the Council on Public Health, revision of the Association's dental public health policy, revision of Association by-laws to increase membership of the Committee on Auxiliary Services from 3 to 5 members, and revision of the constitution and by-laws of the sections of Orthodontics and of Dentistry for Children were approved.

The Association adopted a position respecting remuneration and terms of employment for dentists in salaried employment.

Invitations to the Canadian Section of the American Dental Trade Association and to the Dental Hygienists' Alumnae Association respecting the appointment of consultants to the National Recruitment Committee were approved.

The Board approved a policy regarding visitations to Canadian dental schools in connection with the Council on Education's accreditation program. A. C. Lewis and H. W. Reid were re-appointed as the two permanent members of the three-member survey team of the Council on Education. A teacher-training conference on "Oral Diagnosis and Treatment Planning" at Association headquarters in 1962 was also approved.

A survey of accounting and related clerical routines at Association headquarters was authorized. This is to be conducted by the Thorne Group Ltd. Also approved were the proposals for enlargement of the headquarters facilities by the construction of an additional building to the rear of the existing building.

The Secretariat was instructed to study the possibility of an arrangement whereby the contracting of commercial exhibit space at future conventions would be handled at Association headquarters. Also approved was the reservation of a two-hour period on future convention programs for presentations on subjects of socio-economic and political importance to dental practice. The scheduling of a scientific session on paedodontic practice and preventive dentistry at future convention programs was likewise approved.

Other actions taken by the Board of Governors included the appointment of Association secretary Don W. Gullett as official delegate to the 1961, 1962 and 1963 meetings of the *Fédération Dentaire Internationale*, revision of the policy statement on "Projection of Dental Services in Canada", and re-endorsement of the policy statement on fluoridation. The need to encourage municipalities to fluoridate their water supplies was strongly reiterated.

Responsibility for future liaison between the Association and the Canadian Conference on Children was assigned to the section of Dentistry for Children.

Approval was given to a code of advertising standards with respect to the *Journal of the Canadian Dental Association*.

It was decided to establish a Steering Committee to be responsible for the approval of submissions by and for the Association to the federal government's Royal Commission on Health Services. W. G. McIntosh was named chairman of the Steering Committee.

A proposed survey by the Council on Public Health of undergraduate instruction in dental public health at Canadian dental schools and the planning of a national dental health day were approved.

The Board adopted policies regarding commercial product endorsement and self-administration of fluoride preparations. Proposals respecting the future activities of the Canadian Dental Research Foundation, as outlined in the *Journal of the Canadian Dental Association*, Vol. 27—No. 5—May 1961, were also approved.

PREMIER DOUGLAS ADDRESSES C.D.A. CONVENTION

In a luncheon address at the joint meeting of the Canadian Dental Association and the Western Canada Dental Society on June 6, the Honourable T. C. Douglas, premier of Saskatchewan stated that "we are entering a 'revolution of rising expectations'. Three-fifths of the world population who have suffered poverty and hunger, now realize that these are no longer necessary, that health, education and welfare services can be provided and that people can be trained to provide them. The challenge of the second half of the twentieth century is to solve how the benefits of scientific achievements can be made available to the people of the world. The real struggle of the western world is to show how we can make available to the masses the results of technological advances," the premier added.

"We need a new concept," Mr. Douglas continued. "Every trained person must be regarded as a national asset to be invested in." The only way to get sufficient personnel is to pay students while they undergo training, the premier stated. He also called for larger expenditures for the construction of dental schools to train dentists, dental hygienists and dental technicians. "Bombs and skyscrapers are no good if people are un-

healthy. We must invest in our human assets," the premier said.

Mr. Douglas called for the development of preventive dental programs for preschool and school children and widespread fluoridation in order to reduce the need for prosthetic care in later life. "Eventually we will need a system of national health insurance, not to pay the physician and dentist less than they now receive, but in order that people can pay while they are fit and well so that ability to obtain service is not dependent on available money when sickness strikes." This program must include basic dental service to be available when needed, the premier added. "This does not mean that people won't pay for it. It will not be a 'free' service."

Mr. Douglas concluded with these remarks: "The challenge of our time is to respond to the challenge of a changing situation. Democracy will win provided we are prepared to outservice and outservice those who subscribe to other ideologies. We cannot win the friendship of the uncommitted millions with propaganda alone. We must be prepared to share with them the good things of life."

EXECUTIVE COUNCIL MEETS IN SASKATOON

The Executive Council of the Canadian Dental Association met on June 4 at the Bessborough Hotel, Saskatoon immediately following the annual Board of Governors' meeting. Present were J. P. Whyte, W. Miller, M. V. J. Keenan, R. Langlois, J. Zimmerman, P. S. Christie, J. P. Coupland, G. M. Dewis, Association secretary Don W. Gullett and other Association staff members. The following items were considered:

1. A request from the Ontario Dental Association for a delegation to appear before the Executive Council at its next meeting was granted. This request related to joint convention arrangements.

2. Proposed membership on the C.D.A. Steering Committee relative to the Royal Commission on Health Services was discussed. W. G. McIntosh, chairman of the Committee on Dental Services has also been named chairman of the Steering Committee.

3. It was decided to invite a prominent political economist and a representative from

organized labour to participate on the C.D.A. convention program in 1962 at Vancouver. These speakers will be asked to address the delegates on "Socioeconomic Trends in Health Services with Particular Emphasis on Dental Services."

4. Authorization was given to print a limited quantity of the Association by-laws as amended at the annual Board of Governors' meeting.

5. Consideration was given to an early meeting of the Committee on Auxiliary Services.

6. A request, contained in Resolution No. 4 (1961 Board of Governors' meeting) and referred to the Executive Council, was considered. This resolution requested amendment of Bill C-40, an act of Parliament of the Government of Canada respecting loans to proprietors of small businesses, so as to make this type of credit available to dentists entering or in practice. The Council was unable to concur with the request because the intent of Bill C-40 is reserved for business only, because the requested amendment is inconsistent with Association policy to demonstrate the independence of the profession from government financial aid in these matters, and because alternative sources of aid are available.

7. A request, contained in Resolution No. 11 (1961 Board of Governors' meeting) and referred to the Executive Council, was considered. This resolution requested establishment of a fixed position from which to take aggressive action as national issues clarify themselves and statement as to where the responsibility of the profession begins and ends. The Council did not concur with this request because it felt that the established policy statements adequately describe the position of the Canadian Dental Association.

8. J. P. Whyte, C.D.A. representative to the National Emergency Health Services Advisory Committee was asked to review the Association policy statement respecting the utilization of dental personnel in a national emergency.

9. A progress report was received respecting representation to the Canadian Dental Association of federally employed dentists.

Canada and the Provinces

DR. GULLETT ADDRESSES AMERICAN DENTAL TRADE ASSOCIATION

Addressing the American Dental Trade Association meeting at Murray Bay, Quebec, on June 22, Canadian Dental Association secretary Don W. Gullett called for bold leadership within the profession to meet the increasing demands for dental health care and related social pressures.

Citing the world-wide trend to social security of which health services are an integral part, Dr. Gullett pointed out that "only a few years ago the dental profession, as did other health professions, determined entirely where, how and when their services would be performed. Increasingly on this continent the dental profession does not have the control of yesterday." Regardless of what is said in several quarters, the idea of health services made freely available to all is tied securely into the security movement, he added. "The inclusion of any part of the security legislation can be delayed by active opposition but, in spite of stringent opposing tactics, adoption has always occurred eventually. This is particularly true of health services. The health professions have practically always opposed strenuously and for essentially the same reasons in all countries. Study of the movement in the various countries impresses one with the repetitious nature of the arguments with much the same end results."

He described individual practice, followed by voluntary health insurance societies, followed in turn by compulsory forms under government control, as the common experience of these countries. There has been little important opposition, in fact the direction of the movement has been in the addition, not the deletion of benefits. Where dental services were not an initial benefit, they were added later.

Dr. Gullett questioned the value of pseudo-solutions such as professional public relations programs which only present the side of the profession to the public and seldom touch the basic causes. "The real answer lies in the realm of knowledge and understanding of the social pressures for government-controlled health services," he added.

Adequate health services for all the people and relieving the individual of the responsibility for payment for these services, were the two main objectives of social planners, the dental executive declared. Regardless of

the fallacies inherent in such proposals, it does little good for the health professions to loudly decry them. "No" is the most unpopular word in the language," he added. Pointing to the growing frequency with which lay and health authorities are emphasizing the importance of dental health, he called for the following three measures:

1. Improving the efficiency of private dental practice.
2. The employment of auxiliaries in dental practice to increase the amount of dental services rather quickly.
3. The development of dental service plans based on preservation of the state of dental health with which the normal child is born.

The effectiveness of such a program depends on the overall inclusion of all children, not just those who cannot pay, Dr. Gullett stated. Opportunity is offered the dental profession to be constructive in taking on the administration. Provision can be made for those who cannot pay by the government paying into the plan operated by the profession.

"The acceptance of administrative responsibility by the profession is an achievable goal," he added. "The time has arrived for constructive positive action."

GENERAL NEWS

Convention essayists taped.—Edited tape recordings have been prepared of main essayists at the 1960 convention of the Canadian Dental Association at Ottawa. These tapes are now available on loan from the library. Copies may be purchased at \$10 each.

Tape recordings, available for use at dental society and other meetings, include the following:

"Blastamatoid Lesions—their diagnosis and treatment"—D. A. Kerr

"Manpower in Canadian Dentistry"—panel discussion, W. G. McIntosh, R. G. Ellis, J. McCutcheon, J. W. Neilson, W. J. Dunn

"Stomatitis due to Trauma"—D. A. Kerr
"Oral Manifestations of Blood Dyscrasias"—D. A. Kerr

"Orthodontic Principles and Prevention in Everyday Practice of Dentistry"—Grieve Memorial Lecture, J. A. Salzmann

"A Modern Approach to Dental Restorations"—M. R. Markley

"Causes of Corrosions in Amalgam Restorations and the Consideration of More Modern Cavity Preparations"—M. R. Markley



Seven Canadian dentists were inducted as Fellows of the International College of Dentists at the conclusion of the meeting of the Board of Governors of the Canadian Dental Association in Saskatoon. Shown from left to right are D. R. Harryett of Edmonton; J. M. Grahame of Winnipeg; R. O. Brett of Regina; H. K. Brown of Ottawa; F. R. Smith of Saskatoon; and C. R. Castaldi of Edmonton. A degree was conferred in absentia on R. A. Rooney of Edmonton. Credit: Saskatoon Star-Phoenix

Dentistry is "in the News". — The fact that dentistry is in the news is attested by the recent increase in newspaper clippings received by the Canadian Dental Association Bureau of Public Information. The number of clippings has more than doubled in the past two months. About 500 clippings are received most months, but during March and April the totals exceeded 1,000 each month.

Fluoridation is the most popular and controversial topic of news reports received. Most of the recent increase in clippings is accounted for since the Ontario Fluoridation Investigation Committee tabled its report. Subjects cover a wide range from news of films shown to home and school groups to coverage of recent dental mechanic legislation in Alberta.

Apart from newspapers, articles have appeared in recent months in *Maclean's*, *Chatelaine*, *Time*, and *The Financial Post*. Radio and television stations have also devoted considerable time to dental news and messages, particularly during National Health Week in March.

CANADIAN SECTION OF THE INTERNATIONAL COLLEGE OF DENTISTS

Arthur Poyntz of Victoria, British Columbia, was chosen president of the Canadian section of the International College of Dentists for 1961-62 at a dinner meeting in the Bessborough Hotel, Saskatoon on June 3. L. M. Grose of Toronto was chosen president-elect.

Other officers elected were: H. R. MacLean of Edmonton, vice-president; E. A. White of Toronto, treasurer; D. G. Tanner of Toronto, registrar; C. L. Strachan of London, editor; and Frank Martin of Toronto, chairman of the scholarship committee. C. D. Husband of Red Deer, Alberta becomes past president.

The regents of the various districts are: T. H. Johns of Victoria; W. M. Blair of Calgary; M. J. MacDonnell of Saskatoon; W. J. Riley of Winnipeg; Murray Purcell of Pembroke, Ontario, and deputy, P. G. Anderson of Toronto; W. F. Walford of Toronto; and



At a ceremony recently conducted at the Faculty of Dentistry, University of Alberta, H. K. Brown, dental consultant of the Department of National Health and Welfare, received the hood and gown from J. E. M. Young, vice-president of the Alberta Dental Association. This ceremony preceded a special medical-dental convocation where Dr. Brown received the degree LL.D.

G. M. Dewis of Halifax.

Inducted as fellows of the college were F. R. Smith of Saskatoon; R. O. Brett of Regina; J. M. Grahame of Winnipeg; H. K. Brown of Ottawa; D. R. Harryett of Edmonton; R. A. Rooney of Edmonton and C. R. Castaldi of Edmonton.

ALBERTA

Alberta Dental Association Honours Dr. H. K. Brown. — At a ceremony conducted at the

Faculty of Dentistry, University of Alberta on June 1, J. E. M. Young, vice-president of the Alberta Dental Association made a special presentation of the hood and gown to H. K. Brown of Ottawa, Ontario. This ceremony is conducted for a member of the association who is to be the recipient of an honorary degree from the University of Alberta.

On June 2, president W. H. Johns of the University of Alberta conferred an honorary degree of Doctor of Laws on Dr. Brown on the occasion of a special medical-dental convocation held to mark the opening of the new addition to the Medical Sciences Building. Dr. Brown, who is the dental consultant of the Department of National Health and Welfare, delivered the convocation address.

BRITISH COLUMBIA

College of Dental Surgeons of British Columbia.—At the election for members of the Council of the College held on April 17 and May 1, 1961, these candidates were successful: B. Kjekstad and S. F. Miles of Victoria; N. C. Ferguson of New Westminster; W. P. Munsie, M. Nacht, H. E. Simmons and D. H. Warren of Vancouver; L. E. English of Kamloops and W. N. Fraser of Creston.

Dental Recruitment. — There has been favourable reaction to the paid releases in newspapers sponsored by the British Columbia Dental Association through its public relations committee. Dental recruitment was the theme of the articles and over a hundred letters have been received at the association office requesting the pamphlet "Dentistry as a Career."

Fund Opened for Dental Faculty.—At the annual business meeting of the British Columbia Dental Association a motion was

passed that a voluntary fund be set up as an inducement to establish a dental school at the University of British Columbia. This will have the effect of showing to the government and the university the profession's sincerity of purpose in this important endeavour.

Another Bursary in Dentistry.—The E. S. H. Winn Memorial Bursary in dentistry has been established by three British Columbia dentists; R. M. D. Waddell, H. Guenther and G. D. Hall. In the amount of \$300 annually, it will be awarded to a student who has completed the pre dental requirements of the University of British Columbia and is proceeding to an approved school of dentistry. The award will be made to the student worthy and deserving of financial aid.

ONTARIO

Royal College of Dental Surgeons of Ontario.—A. H. Leckie of Hamilton was elected



Honorary life membership in the Vancouver and District Dental Society was recently bestowed on twelve dentists who have practised for forty-five years or longer. So honoured were, from left to right, A. E. Wark, R. L. Davison, H. E. Thomas, R. S. Goodwin, J. S. Bricker, E. C. Jones, G. R. Nimmons, W. H. Geddes, H. Simmons, W. M. Hanna, and E. L. Cox. Not shown is M. R. Parkin.

A. H. LECKIE



Credit:
Beckett, Hamilton.

president of the board of directors of the Royal College of Dental Surgeons of Ontario on May 19. Dr. Leckie is the first dentist from Hamilton to be elected to this post in this century. W. G. Bruce of Kincardine was elected vice-president.

The remaining directors are J. P. Coup-land of Ottawa; R. C. Honey, Peterborough; M. V. J. Keenan, Sudbury; H. M. Jolley, Toronto; D. J. Ferguson, London; J. R. Hurton, Brantford and J. D. Purves representing the Faculty of Dentistry of the University of Toronto.

Wesley J. Dunn of Toronto is the registrar-secretary-treasurer.

Workshop Conference on Auxiliary Personnel.—The board of directors of the Royal College of Dental Surgeons of Ontario at its November 1960 meeting, authorized a workshop conference which was held in the Royal York Hotel, Toronto, April 10, 1961. The conference was open to all Ontario dentists but each local and each specialty society was requested to delegate at least one individual to represent the organization. In addition, each of the clinical teaching departments of the Faculty of Dentistry, University of Toronto and the Director-General of the Royal Canadian Dental Corps were invited to participate. In all some 164 dentists attended.

Four discussion groups were arranged as follows: Group 1—prosthodontics; Group 2—operative dentistry (including crown and bridge prosthodontics and endodontics); Group 3—orthodontics, paedodontics, and dental public health; and Group 4—periodontics, radiology, oral surgery, and anaesthesiology.

The announced purpose of the conference was an attempt to delineate what, if any, individual procedures presently being per-

formed only by dentists could be delegated to appropriately trained auxiliaries acting under the responsible supervision and control of dentists. In Groups 1, 2 and 4 discussions held prior to the actual consideration of the procedures indigenous to their areas led to an amendment of the original purpose and rather than each of the groups directing its attention to what individual procedures presently being performed only by dentists *could* be delegated to appropriately trained auxiliaries . . . , the substitution of the word "could" with "should" received majority agreement. In Group 3 decisions were made on the basis of "*could reasonably*" be delegated . . . It is important, then to consider the individual reports of the group sessions in the light of the terms of reference with each group established for itself.

Group 1—Prosthodontics.—This group was virtually unanimous in its opposition to the delegation of any prosthodontic procedures with the exception of making primary impressions and performing minor repairs and even in these two areas the vast majority of the group was opposed to delegation.

Group 2—Operative Dentistry.—The following majority conclusions may be drawn from the deliberations of this group:

1. The dentist must select the operating field for the insertion of a rubber dam. Qualified auxiliary personnel may be permitted to punch the holes, select the clamps, apply the rubber dam, and sterilize the operating fields where indicated in endodontic treatment.

2. All phases of silver amalgam restoration must be performed by the dentist except construction of the matrix outside the mouth, proportioning, trituration, expression of the excess mercury, and passing of the amalgam to the dentist or into the cavity and polishing the restoration.

3. All phases of silicate and plastic restorations must be performed by the dentist except selection of the shade and preparation of the filling materials.

4. All phases of gold foil restoration must be completed by the dentist including securing separation of the teeth.

5. All phases of direct gold inlays must be completed by the dentist.

6. In temporary treatments, non-fabricated dressings such as anodyne dressings may be applied by an auxiliary but all phases of fabricated dressings such as aluminum shell crowns, plastic crown forms and temporary acrylic crowns with their impression procedures, must be carried out by the dentist.

7. All phases of crown and bridge procedures carried out in the mouth must be done by the dentist including impressions, shades, cementation, and the removal of temporary crowns.

8. All phases of endodontic treatment must be carried out by the dentist.

Group 3—Orthodontics, Paedodontics, and Dental Public Health.—The terms of reference of this group most closely adhered to the original purpose of the conference and the chairman of the group declared that the results of this group were different because of the greater specificity of the terms of reference and not because the group included many specialists. This group considered the subject employing the phrase "*could reasonably be delegated . . .*" The following procedures might reasonably devolve to an appropriately trained auxiliary acting under the responsible supervision and control of a dentist:

1. Reception and clerical procedures.
2. Taking histories and recording findings.
3. Clinical examination for screening or epidemiological purposes.
4. Accessory examination including the taking of radiographs, impressions for diagnostic models, vitality tests, measurements, and radiographic cephalometrics but *not* the interpretation of the results of these examinations.
5. Patient education.
6. Administration of topical anaesthetics.
7. Application of the rubber dam.
8. Finishing and polishing of amalgam restorations.
9. Holding silicates for setting.
10. Fabrication of temporary-permanent and final restorations for injured teeth.
11. Impressions for fixed and removable appliances used for paedodontic or orthodontic purposes and the fabrication of such appliances.
12. The administration of drugs taken by mouth and given intramuscularly.

Group 4 — Periodontics, Radiology, Oral Surgery and Anaesthesiology.—The conclusions of this group were as follows:

1. The patient must be seen first by the dentist. Thereafter the assignment of taking and processing radiographs could be delegated to the auxiliary on the instructions of the dentist.
2. Auxiliary personnel may perform routine postoperative care following oral surgery and such services would include (a) removal of sutures, (b) irrigation of sockets, (c) chair-side assistance (aspirating), (d) observation of the general condition of patients, and (e) changing of surgical dressings.
3. The administration of topical anaesthetics.

4. Auxiliary personnel in the field of periodontics should be entitled to perform (a) periodontal packings, (b) superficial and deep but not final scaling, (c) changing surgical dressings, (d) oral hygiene instruction, (e) nutritional discussions, (f) polishing of teeth and fillings, (g) application of stannous fluoride. (*Note.* — "Periodontal packing" in Ontario jurisprudence does not reside within the legal purview of dental hygienists. Also there are no legal limits established in this province beyond which a dental hygienist must not venture in scaling procedures.)

The General Session. — Following the morning group conferences, all participants met together in general session during the afternoon. There was unanimous agreement at the general session with the amended stipulation that services of auxiliaries should not extend to diagnosis, case assessment, treatment planning, cutting or severing of hard and soft tissues, prescribing of drugs, guiding dento-facial growth and development and the correction of orthodontic malfunctions.

The following motion was approved on a division of 75 for, 35 against, with 12 abstentions: "That the conference does not approve of any auxiliary placing any permanent restoration in any human tooth."

The participants felt that another conference should be held but after extended discussion there was no agreement relative to the form such a conference should take. The conference terminated with a motion of appreciation to the board for the organization of the conference and to the general chairman, M. E. Lucyk, for his excellent conduct of the meeting.

A full report of the conference appears in the *Journal of the Ontario Dental Association*, Vol. 38—No. 7—July 1961.

PRINCE EDWARD ISLAND

Island Dentists Elect New Executive.—The following officers were recently named to executive office by the Prince Edward Island Dental Association: D. A. Stewart, president; J. P. MacIntyre, vice-president; and G. D. Barrett, registrar-secretary-treasurer. Heath McIntyre and H. F. Clark were appointed council members. G. D. Barrett was also appointed as the representative to the National Dental Examining Board of

Canada. He replaces Dr. McIntyre.

The annual meeting was held on May 10 at Summerside. A feature of the business meeting was the retirement of the former registrar-secretary-treasurer, Heath McIntyre, who has held this position continuously since 1938. The grateful thanks of the association were expressed to him by H. F. Clark of Summerside.

QUEBEC

Mount Royal Dental Society. — The Mount Royal Dental Society celebrated the fortieth anniversary of its founding at a dinner-dance held on May 6 at the Sheraton Mount Royal Hotel. Among the many guests present were Ernest Charron, former dean of the Faculty of Dental Surgery, Université de Montréal; Rémy Langlois, president of the College of Dental Surgeons of the Province of Quebec; James McCutcheon, dean of the Faculty of Dentistry, McGill University;

J.-P. Lussier, associate dean, Faculty of Dental Surgery, Université de Montréal; W. J. Johnston, president of the Montreal Dental Club; and Claude Vachon, president-elect of la Société dentaire de Montréal. Head table guests included Gerald Franklin, former professor of Orthodontics at McGill University and honorary member of the society and M. Greenblatt representing the Alpha Omega Dental Fraternity.

P. J. Gitnick, president of the Mount Royal Dental Society opened the program by introducing the guests who were present and sketched the history of the society since its formation. Greetings were extended to the society by the various representatives in the field of dental education and organized dentistry. Tribute was paid by M. H. Toker, general chairman of the 40th anniversary planning committee, to the founding members present at the dinner, who included L. S. Eidinger, B. L. Hyams, N. Lande, Frank Mendel, I. N. Pesner, M. Solomon, N. P. Solomon and J. Wiener. Every member of this group is still in active practice after forty years or more in the dental profession and had set a fine example to others in



Present at the recent fortieth anniversary dinner of the Mount Royal Dental Society were from left to right: D. Greenblatt, president, Alpha Omega Dental Fraternity; C. G. Baer, president-elect, Mount Royal Dental Society; P. J. Gitnick, president, Mount Royal Dental Society; J.-P. Lussier, associate dean, Faculty of Dental Surgery, Université de Montréal; Claude Vachon, president-elect, la Société dentaire de Montréal; Ernest Charron, former dean of the Faculty of Dental Surgery, Université de Montréal and honorary member, Mount Royal Dental Society; J. McCutcheon, dean of the Faculty of Dentistry, McGill University; M. H. Toker, general chairman of the 40th anniversary planning committee; W. J. Johnston, president Montreal Dental Club; Rémy Langlois, president of the College of Dental Surgeons of the Province of Quebec; and Gerald Franklin, former professor of Orthodontics, McGill University.

Credit: A.B.C. Studios Inc., Montreal.



Founding members present at the recent fortieth anniversary dinner of the Mount Royal Dental Society were from left to right: Frank Mendel; Nathan Lande; B. L. Hyams; P. J. Gitnick, president; L. S. Eidinger; I. N. Pesner; M. Solomon; N. P. Solomon and J. Wiener.

Credit: A.B.C. Studios Inc., Montreal.

that seven of their immediate families have followed them into the dental profession.

Later in the evening life membership was conferred on Henry Klein and Marcus Star, in recognition of having attained thirty-five years of dental practice and membership in the society. The newly elected executive officers were then installed by N. P. Solomon after thanking the outgoing ex officers.

For 1961-62 the officers and executive committee are as follows: — C. G. Baer, president; Harry Rosen, vice-president; D. Solomon, secretary; C. Solomon, treasurer; L. Druckman, assistant secretary; and M. Star, historian-archivist. Executive members are: P. J. Gitnick (ex-officio), M. Capelle, M. Gornitsky, H. Levitt, H. Scherzer, B. Sedlezky, G. Silver, and D. Zacharin.

The evening ended with the presentation of a gift to the outgoing president, Dr. P. J. Gitnick and appreciation to Dr. D. Zacharin, chairman of arrangements.

Measures Proposed to Improve Dentist-Technician Relations. — Addressing 190 members of the Association of Dental Technicians of the Province of Quebec on April 21, R.-M. LeBlanc, registrar of the College of Dental Surgeons of the Province of Quebec, proposed the following measures for the improvement of relations between the two groups:

1. Official accreditation for dental laboratories, subject to inspection by a joint committee of the association and the College of establishments whose proprietors are members of the association. Accredited laboratories must satisfy minimum requirements with respect to equipment, quality of products and ethical practices.

2. Certification as "Advanced Prosthetic Technologist" of technicians having attained a certain degree of skill in the following divisions: full dentures, cast partial dentures, crowns and bridges, ceramics, etc.

3. Establishment of an evening course for dental technicians under the auspices of the association and the College.

4. Review and adjustment of the schedule of fees for dental laboratory services in order to stabilize the financial operation of laboratories and improve the salaries of employees to a level comparable with that of other skilled trades.

5. Collaboration of the technicians' association in the displacement of undesirable and incompetent individuals.

In a bill designed to amend Article 151 of the provincial dental act which is to be presented at the next session of the legislature, the College will require that every dental technician who is privately employed in a dental office must be a certified member in good standing of the Association of Dental Technicians of the Province of Quebec.

Both groups have established a joint committee composed of Messrs. J. L'Abbé, A. Marston, and Drs. D. B. Ward and R.-M. LeBlanc.

International Items

FRANCE

International Dental Congress Scheduled.—Under the presidency of Dr. Jean Deliberos, the "35^{èmes} Journées Dentaires Internationales de Paris," "La Semaine Odontologique Internationale" and the "65^{ème} Congrès Dentaire de Paris" are to be combined into one "Congrès de l'Entente Odontologique" which will be held this year from November 20 to 26 inclusive at the Exhibition Park, Porte de Versailles. An extensive program of scientific reports, table clinics, and commercial exhibits is being arranged. Details of the social program will be published at a later date. Information and application forms may be obtained from the Secretary-General, Dr. J. L. Dephilippe, 3a Boulevard Malesherbes, Paris 8e, France.

UNITED STATES

Temple University Appoints Vice-President of Health Sciences.—Temple University, Philadelphia, has announced the establishment of a new post, that of vice-president for the Health Sciences, and the appointment of Dr. LeRoy E. Burney, former Surgeon General of the United States, as the first officer to hold the new post. Announcement of the new position and Dr. Burney's appointment was made by Dr. E. Gladfelter, Temple president. "In the new position established by the University's board of trustees," Dr. Gladfelter said, "the vice-president for Health Sciences will have administrative responsibility for all educational activities related to the health sciences, the Temple University Hospital and its affiliated hospital relationships."

The educational activities under his supervision will include the Schools of Dentistry,

Medicine, Medical Technology, Nursing, Oral Hygiene, Pharmacy, and any graduate activities in these areas, Dr. Gladfelter said.

Under the former organizational plan at Temple University, the Hospital, the School of Medicine, the School of Nursing and the School of Medical Technology were administered by a vice-president in charge of Medical Affairs. Dr. W. N. Parkinson recently retired from this post after having served the University for 35 years. Under the new plan, the Schools of Dentistry, Pharmacy and Oral Hygiene are also included in the administrative duties of the newly created vice presidency.

The selection of Dr. Burney for the position was made by a committee that included members of the University's board of trustees, Dr. Gladfelter, and representatives of the medical school, the hospital, and the dental and pharmacy schools.

A native of Burney, Indiana, Dr. Burney was named Surgeon General of the U. S. Public Health Service by President Eisenhower in August, 1956. He has spent his entire professional career in public health activities.

National Joint Commission for Laboratory Accreditation Sought.—Work-parties representing the American Dental Association and the National Association of Dental Laboratories have agreed to recommend establishment of a national joint commission for accreditation of dental laboratories to their respective organizations. This action, taken at a May 6-7 joint meeting in Chicago, climaxes a lengthy period of co-operative study and planning by the two groups. The recommendation will now be presented for approval to the policy-making bodies of the two organizations when they next meet. Included in the presentation will be a set of by-laws agreed upon at the meeting.

A nine-member board of commissioners will direct the affairs of the joint commission. Three members will be named by the National Association of Dental Laboratories, three members by the American Dental Association and the final trio by three dental associations or societies not yet designated. The conferees agreed that the director of the commission need not be a dentist but should have administrative qualifications and experience. They also disclosed that careful consideration had been given to alternative proposals for representation on the board and qualification of the director before this plan was adopted. It was also agreed that the contemplated program would be partially financed by fees collected from dental laboratories applying for accreditation. The balance of the cost is to be underwritten by the dental profession. Program standards and implementation were agreed upon in prin-

ciple but were referred to a committee for further development.

A joint report is now being prepared for publication in the Journals of the National Association of Dental Laboratories and the American Dental Association. It will set forth, in detail, background information, the work-party deliberations and the areas of agreement concerning the proposed accreditation program.

RUSSIA

U.S. Dental Mission Visits U.S.S.R. — An eight-member American dental mission visited the Soviet Union during June. The group was in Moscow, June 3-7; in Leningrad, June 8-10; in Kiev, June 11-15; in Tiflis, June 16-18; in Sochi, June 19-21; and returned to Moscow on June 22. Visits were made to various dental, scientific and cultural institutions. Members of the mission included the president, president-elect and secretary of the American Dental Association, the director of the (U. S.) National Institute of Dental Research, the chief dental officer of the U. S. Public Health Service, a dental school dean, and others. The visit followed a similar visit to the United States by a five-member Russian dental mission during April and May.

Canadian Dental Schools

UNIVERSITY OF MANITOBA

Endodontic Course Given by Dr. Ostby. — The Department of Extension Studies of the University of Manitoba invited a distinguished Norwegian dentist Dr. B. Ostby to conduct a seminar in endodontics at the Faculty of Dentistry, on April 21 and 22.

Dr. Ostby is director of the Norwegian Institute of Dental Research. Both Dr. Ostby and his institute have gained a world-wide reputation for the quality of their research and the names of members of the institute staff have practically become household

words in dentistry—Waerhaug, Loe, Lange-land, Kromer and of course, Ostby himself.

Twenty practitioners attended the seminar. From Fort Frances, Ontario came L. E. Amonson; from Dauphin, Manitoba, came S. A. Heschuk; from Tisdale, Saskatchewan, came G. H. Robinson; and from Edmonton, Alberta, came R. L. Tegart. A. E. Bourgeois, A. E. Diner, R. T. Grenkow, L. Karr, S. Katz, D. C. McInnes, L. Melosky, R. H. Murdoch, J. Passalis, W. J. Schadek, C. G. Shapera, A. J. Shinoff, M. Slonim, R. G. Spink, H. Towe, and T. Vinsky came from Winnipeg and St. Boniface.

This is the first time an international figure of such repute, from overseas, has given a course at the new dental school. The program was arranged by Dr. F. J. Marshall, associate professor of Dentistry (Endodontics and Oral Histology).

UNIVERSITY OF ALBERTA

New Building for Alberta Dental School. — The official opening of new facilities for Alberta's dental school took place on June 2 at 10 A.M. in Edmonton. A special medical-dental convocation of the University of Alberta was held in the afternoon.

Housed in the new Medical Sciences Building, the new dental facilities represent an investment of about \$375,000, exclusive of building costs. The undergraduate student body is gradually being increased from 30 to 50 per class. There are 46 students in the present freshman class.

The general clinical area has 54 complete chair units. Other units are provided for demonstrations, a paedodontic-orthodontic area with separate waiting room, dispensary and laboratory, and other special areas. Graduate study programs are being planned.

Academic staff now consists of seven full-time and 28 part-time teachers. It is planned to add at least four more full-time teachers by the 1961-62 session.

Past-president W. G. McIntosh of Toronto represented the Canadian Dental Association at the opening ceremonies.

UNIVERSITY OF TORONTO

New Course in Dental Anaesthesiology. — A new graduate training program leading to the degree B.Sc.D. in dental anaesthesiology will be inaugurated beginning with academic

session 1961-62. The twelve-months course, arranged by the Faculty of Dentistry in co-operation with the Department of Anaesthesiology of the Faculty of Medicine, will provide advanced instruction for dental graduates in local and general anaesthesiology as it relates to the practice of dentistry.

Instruction in anatomy, physiology and pharmacology will be taken together with medical residents training for the Diploma in Medical Anaesthesiology. Particular emphasis will be directed to the anatomy of respiration and the anatomy of the vascular supply to the arm. Other assignments include attendance at lectures in anaesthesiology delivered to third-year dental students, seminars arranged by the professor of Dental Anaesthesia, clinical assignments and the submission of an essay.

Candidates will be required to pass examinations in anatomy, pharmacology, physiology and dental anaesthesiology, and to have their essay approved by the Department of Dental Anaesthesia of the Faculty of Dentistry.

Royal Canadian Dental Corps

RETIREMENTS

Three well known dental officers retired from the Canadian Army in June, namely, Colonel H. L. Harris, C.D., Q.H.D.S., D.D.S., Colonel T. L. Marsh, C.D., D.D.S., D.D.P.H., and Captain N. S. Gage, C.D., D.D.S.

Colonel Harris who vacates the appointment of Director of Dental Services (Navy) in the Directorate of Dental Services, Ottawa has been with the Corps for 22 years. He was born in Freeport, N.S. and educated in Yarmouth, N.S. and at Dalhousie University. He obtained his D.D.S. degree at McGill University in 1934 and following a year's internship in oral surgery in Montreal hospitals entered private practice in Kentville, N.S.



R.C.D.C. FLASHBACK

A group of No. 5 Company officers are shown in England in 1942.
Courtesy of Dr. J. Abra, Winnipeg.

COL. H. L. HARRIS



Commissioned in the Canadian Dental Corps in November 1939 he proceeded overseas in 1942 and saw service in the United Kingdom and northwest Europe. On his return to Canada in 1945 he was posted to Vancouver, B.C. Since the war he has held various appointments in Ottawa, Trenton and Halifax. He was promoted Lieutenant Colonel in 1949 and to his present rank in 1956.

Colonel Harris, who is married with two children has accepted an appointment as chief dental officer, Department of Education in London, Ontario.

Colonel T. L. Marsh who at the time of his retirement was Command Dental Officer, Quebec Command and Commanding Officer of No. 15 Dental Company with headquarters in Montreal, has seen 19 years service with the Corps.

Born in England he moved to Canada at an early age and received his dental education at the University of Toronto graduating in 1932. He attended the same university again in 1952 and received his diploma in dental public health.

He enrolled in the Canadian Dental Corps in 1942 and served in Canada and the United Kingdom as well as at sea aboard H.M.C.S.

CAPT. N. S. GAGE



Warrior. Since the war he has served as an instructor at the RCDC School, Commanding Officer of No. 1 Field Dental Company in Germany, Dental Public Health Officer at Army Headquarters and assumed his present appointment in 1958.

Active in medical and dental research, Colonel Marsh is a member of the American Medical Editors' and Authors' Association; ex-member of the executive council of the Toronto Academy of Dentistry; past-president of the Alumni of the Newman Club, University of Toronto as well as having a wide interest in professional, journalistic and research committees.

Colonel Marsh, who is married with two children, has accepted a civilian post with the provincial government of Manitoba and will reside in Winnipeg.



COL. T. L. MARSH

Captain Gage who prior to his retirement was dental officer at Royal Military College, Kingston has served 16 years with the Corps. He was born in Kingston and received his public and high school education there and graduated from the University of Toronto with his D.D.S. in 1933, following which, he returned to Kingston to enter private practice. He enrolled in the Canadian Dental Corps in 1939 and during the second world war served in Canada, the United Kingdom and northwest Europe until December 1945. He then served as a dental officer with the Department of Veterans' Affairs in Kingston until 1957 when he was again commissioned in the Corps and since that time has had postings in Prairie and Central Commands.

Captain Gage who is married with one daughter, has accepted a hospital appoint-

ment with the provincial government of Ontario.

All members of the Corps wish these esteemed officers every success in their new careers.

BRIGADIER BAIRD ATTENDS IMPORTANT MEETINGS

Brigadier K. M. Baird, Director General of Dental Services has been selected as a member of the Emergency Health Services Advisory Committee. This committee replaces the Defence Medical and Dental Services Advisory Board which was established in 1949. The new committee held its first meeting in Ottawa, May 29-30.

The Director General also attended the meeting of the Board of Governors of the Canadian Dental Association held in Saskatoon on May 31 to June 3.

PROMOTIONS

The following promotions were recently announced by Army Headquarters: Lieutenant Colonels C. E. Purdy and A. T. Roger to be Colonels; Majors D. H. Hillier and G. MacDougall to be Lieutenant Colonels and Captains J. I. Gordon and J. J. N. Wright to be Majors.

Colonel Purdy graduated from the University of Toronto in 1933 and practised in Toronto until joining the Corps in 1942. During his service he has held appointments at the RCDC School, No. 1 Field Dental Unit in Germany, the Directorate of Dental Services and Central Command. Prior to his new appointment as Commandant, the RCDC School, Camp Borden he was Commanding Officer No. 14 Dental Company with headquarters in Winnipeg. Colonel Purdy is married with two children.

Colonel Roger was born in Hamilton but received most of his education in Ottawa and graduated from the University of Toronto in 1937. Appointed to the Corps in 1939 he proceeded overseas in 1941 serving for some years with the maxillo-facial team at Basingstoke Neurological Hospital. On demobilization in 1945 he took an appointment with the Department of Veterans' Affairs but was re-appointed to the Corps in 1951. From 1953 to 1960 he was an instructor in oral surgery

at the RCDC School and in June 1960 was given his present appointment as Commanding Officer No. 12 Dental Company in Halifax where he resides with his wife and two sons.

Lt.-Col. Hillier was born in Toronto and attended Parkdale Collegiate. He enlisted in the Corps in 1944 while attending the University of Toronto and was commissioned on graduation in 1945. Since that time he has served in Camp Borden, Edmonton, No. 1 Field Dental Unit in Germany and Ottawa. In June 1960 he graduated from the University of Michigan with his M.P.H. degree and was posted to his present appointment in the Directorate of Dental Services. Lt.-Col. Hillier is married with four children.

Lt.-Col. MacDougall is a native of Sherbrooke, Quebec. He graduated from Bishop's College with a B.Sc. in 1942 and from McGill University with a D.D.S. in 1945. He enrolled in the Corps in 1945 and has served in Central, Western and Prairie Commands as well as Europe and the Middle East. He assumed his present post at the RCDC School in 1960. Lt.-Col. MacDougall is single.

Major Gordon is from Halifax where he received his early education and graduated from Dalhousie University in 1944. He was commissioned in the Canadian Dental Corps in 1942 while attending university and promoted to Captain in 1944. On demobilization in 1945 he entered private practice in Halifax where he remained until 1956 when he re-entered the Corps. Major Gordon who is single, is employed at H.M.C.S. Stadacona, Halifax.

Major Wright is a native of Exshaw, Alberta and received his high school education in Banff. He attended the University of Alberta under the Regular Officers Training Plan and on graduation in 1956 was promoted to the rank of Captain and posted to Western Command. Since that time he has served in Western and Central Commands, at sea aboard H.M.C.S. Ontario and in the Middle East. His present posting is at the RCDC School, Camp Borden.

CHANGES IN COMMAND

Army Headquarters has announced the following changes in senior appointments in the RCDC:

Colonel I. A. L. Millar, Commanding Officer, No. 11 Dental Company, Edmonton to be Director of Dental Services (Navy) in the

Directorate of Dental Services, Ottawa, vice Colonel H. L. Harris.
 Colonel B. P. Kearney, Commandant the RCDC School, Camp Borden to be Commanding Officer, No. 11 Dental Company.
 Colonel C. E. Purdy, Commanding Officer, No. 14 Dental Company, Winnipeg, to be Commandant, The RCDC School.
 Lt.-Col. R. B. Jackson, Senior Dental Officer, No. 1 Dental Clinic, A.F.H.Q., Ottawa to be Commanding Officer, No. 14 Dental Company.
 Lt.-Col. C. M. Cornish, Senior Dental Officer, R.C.A.F. Station Rockcliffe to be Senior Dental Officer No. 1 Clinic, A.F.H.Q.
 Lt.-Col. J. G. Butler, Directorate of Dental Services, Ottawa to be Commanding Officer, No. 15 Dental Company, Montreal, vice Colonel T. L. Marsh.

POSTINGS, RELEASES

The following postings of dental officers have recently occurred:

Captain G. I. J. Bisailon to 14 Dental Company from No. 4 Field Dental Unit in Germany.
 Captain M. A. J. Lachapelle to H.M.C.S. Bonaventure from Camp Petawawa, Ont.
 Captain D. J. MacPhee to No. 4 Field Dental Company, Germany from R.C.A.F. Station Downsview, Ont.

The following officers have taken their releases on completion of their tours of duty with the Corps to enter private practice: Captain R. A. Bell, Captain W. T. Lesage, Captain G. G. Tremblay, Captain J. L. Dorval, Captain J. S. Davis, Captain L. A. Reynolds, and Captain W. R. Black.

Public Health

DENTIST SHORTAGE ENDANGERS B.C. DENTAL PUBLIC HEALTH SERVICES

In the 1960 annual report of the Health Branch, British Columbia Department of

Health Services and Hospital Insurance, F. McCombie, director of the Division of Preventive Dentistry draws attention to the increasing shortage of dental practitioners in that province. The number of dentists each year commencing practice in British Columbia is not keeping pace with the rate at which the population is increasing. Since 1952 the ratio of dentists to population in British Columbia has worsened. By the standards of 1951, there is today a shortage of 100 dentists. If the present trend continues, the province will be short of 300 dentists in the next ten years.

The preventive dental services supported by the department, together with the efforts of private dental practitioners, have established a pattern whereby approximately 60 per cent of grade 1 pupils of the entire province receive dental treatment. However, recent provincial dental health surveys show that children in Victoria benefit by a significantly greater amount of dental treatment than provided anywhere else in the province. They also experience a lower rate of caries attack. The amount of dental treatment received by children of the northern health units and those of the Kootenays is somewhat less than in other areas of the province. The ratio of dentists to population is best in Victoria and least favourable in the north and the Kootenays.

The better dental health status of Victoria children is attributed to the availability of private dental practitioners and their willingness to provide treatment to children. Also, the co-operation between the board of trustees of this school district and the Victoria and District Dental Society, whereby children may obtain dental treatment during school hours, is considered to be a significant contributing factor.

In view of the accumulated dental caries experience in 6-year-old children community preventive dental programs in British Columbia have been re-orientated during the past year with emphasis on preschool children. To encourage parents to establish sound dental health practices for their children at an early age, infant rosters are under preparation in health unit offices. When a child reaches 3 years of age, a "reminder" will be mailed to the parents to advise them to take the child to the family dentist for counseling, examination, and necessary treatment. This procedure is already in effect in fourteen school districts.

In the community preventive dental programs served by a resident general dental practitioner, time previously allocated to the treatment of pupils in grades 2 and 3 is to be re-allocated to preschool children. Where there is an acute shortage of available time from local dentists, and this is rapidly becoming a problem throughout the province,

programs previously confined to "grade 1 pupils only" are now operating as "pre-school only" programs.

Commencing in the summer of 1961, the department will initiate a "Dental Public Health Extern Program" whereby four externships will be offered to new dental graduates. Externs will be assigned to some of the small and more remote communities which rely on the department for the services of a visiting dentist, primarily for their community preventive dental program. These externs will not only ensure continuity of much-needed services to the small communities and thereby gain further clinical experience, but they will also be given practical experience in the many other dental public health activities within the province. During his nine to twelve months assignment each extern will serve under the direction of a regional dental consultant of the Division of Preventive dentistry.

In connection with the services of such dentists, who utilize transportable dental equipment furnished by the department when visiting the smaller communities, a pilot transportable high speed dental air turbine unit has been under trial during the past year. Four additional units have been ordered and when these are received each dental public health extern will be so equipped.

The appointment during the past year of a fifth regional dental consultant completes the establishment of field dental officers of the Division of Preventive Dentistry. Thereby, in future, the services of the department will be available for the first time to all the rural health units of the province. Two dental officers are attending the University of Toronto during the current academic session for postgraduate training in dental public health. They will return to field duty in the early summer of 1961.

BOOK REVIEWS

Radiation Protection and Dentistry

Prepared by: Arthur H. Wuehrmann.
Published by: The C. V. Mosby Co., St. Louis, 1960.
Pages: 238. Price: \$6.50.

This concise book is clearly written and in a form which is readily comprehended. The diagrams and cartoon drawings are descriptive and effectively illustrate the text. In many instances a graphic style has been used in order to illustrate a point.

The author states in the introduction that the book results from a need for a simplified text on a subject full of intricacies. He further suggests that this is not a scientific textbook, but rather a compilation of available knowl-

edge from widely scattered and varied scientific publications, mostly of a non-dental nature. It is written for the general practitioner to enable him more adequately to protect himself and those who are his responsibility. The author's purpose is to bring this information to the dentist in a simplified, understandable and easily readable form. He has succeeded admirably in assembling in one handbook the most pertinent facts in the light of present-day knowledge.

The material is divided into fundamental effects of radiation on matter, physical principles of x-radiation, prevention of radiation injury, methods of reducing radiation injury and legal aspects. This latter is important in that the legal aspect is a facet of dental radiology which has received scant attention

in the past and may be of increasing importance in the future.

Many times throughout the book the profession is exhorted to become knowledgeable in the type of radiation being used lest the privilege of using x-radiation be lost to those who show disinterest in further study. The author infers, as other teachers of this subject have done, that the dentist using x-ray equipment has a moral and ethical responsibility to be competent.

An excellent feature as a follow-up to the main body of the text is a section called "A Survey of the Literature" in which articles originally published in lay magazines, newspapers and scientific journals are mentioned and commented on. This should save the busy practitioner much time in keeping abreast of current literature.

The author states that whether dentists like it or not, they will have to become as familiar with terms such as background radiation, minimum lethal dose, half-value layer, etc., as they are with mesio-occlusal amalgam and interproximal space. To this end he has included a glossary of terms which should be commonly understood by the dentist.

An appendix consisting of an addendum to the National Bureau of Standards *Handbook on the Maximum Permissible Exposure to Man*, serves to make the most recent thinking on this subject available.

The book was written for the general dentist. It can readily be recommended not only to the practising dentist but also to the undergraduate and postgraduate student alike.

H. G. Poyton and D. W. Stoneman.

Survey of Dentistry

Prepared by: The Commission on the Survey of Dentistry in the United States, Byron S. Hollinshead, Director.

Published by: The American Council on Education, Washington, 1960.

Pages: 603 Price: \$10.00

This book should be read with a clear concept of the purpose of the Survey of Dentistry in the United States, as outlined in the Introduction.

Dental Health.—The author of the chapter on Dental Health has suggested six headings for consideration, namely: the dental health problem; the prevalence of dental disease and the demand for treatment; the effectiveness of dental public health programs; methods of financing dental care; the availability of professional service; and finally, leadership for the future.

The magnitude of the dental health problem is described and it becomes of national concern because it is first a problem of indi-

viduals. Data with which we are so familiar defines the problem in cold, impersonal statistics.

It is pointed out that the profession alone cannot solve the dental health problems. There is a public responsibility to determine whether dental health is a public or individual responsibility. A recommendation is made to organize a national voluntary council to be responsible for stimulating public interest in dental health problems, and developing support for programs of research, education, prevention and dental care.

The dentists' attitude toward far-sighted leadership in the changing social structure is a major factor in deciding the type of organized action to be taken to solve the dental health problems. Important as the course to be taken by the dentist may be, it is even more important to the public whose health is at stake.

In discussing leadership for the future, the shortage of personnel with skills in administration is pointed out. This chapter contains a wealth of factual material to support a number of recommendations by the commission to implement a solution to the problems.

Dental Practice.—With advancements in technical and scientific knowledge the practice of dentistry has changed markedly over the last thirty years. The realization that oral health and total health are frequently related to each other has given impetus to the biological aspects of dental practice.

It is pointed out that although dental preventive measures are available many dentists are not conducting preventive practices, nor are concerted efforts directed in educating patients and the public in the prevention of dental diseases.

Solo, group and specialty practices, and dental incomes are discussed. Concern is expressed regarding the tendency of developing too many areas of specialization.

The problems associated with the training, availability, duties and certification of auxiliary personnel, i.e. dental hygienists, dental nurses and assistants and dental technicians require comprehensive study.

Dental Education.—This section is a rather exhaustive review of the major issues involved in dental education in the United States. Information was gathered through replies to questionnaires from presidents of universities in which dental schools were located, from deans and staff of dental schools, from undergraduate students, from recent graduates, and from members of licensing boards in the United States.

Recruitment of potentially good students is pointed out to be one of the serious problems. The evidence indicates that the family

dentist is the most influential person in motivating young people to choose dentistry as a career.

Much of the report is devoted to the subject of dental teachers. It repeatedly emphasizes that better salaries must be obtained to attract and keep staff. More instruction in teaching methods should be offered to dental educators.

Additional graduate programs should be established to train and assist clinical teachers in the philosophy of utilizing "oral medicine" as a base for clinical instruction. Dental teachers should be trained in research methods and given the opportunity to carry out research. This again points out the need for more graduate programs to train teachers.

All aspects of teacher training and acquisition are even more significant in view of the proposed expansion in dental education within the next decade or so. The commission considers that the number of dentists graduating should be doubled by 1975.

There can be no doubt that the extensive tabulations that have been gathered through the survey will be of great use to dental educators in improving their own programs and in planning for the future.

Dental Research.—The dominant theme of this section is the serious lag of dental research in proportion to the importance of its possibilities "in terms of time and money spent, in terms of recruitment and training, and, most important, in terms of having a favourable environment". Specific recommendations of the commission designed to improve the situation include reinforcement of programs designed to stimulate students and faculty in research and scholarly pursuits, increase of faculty staff, greater financial support at all levels, new career research fellowships, development of close relations among other health science schools and graduate departments, and an acceleration in communicating research findings to dental teachers and to practitioners.

On the positive side one may detect clear signs of progress in dental research. Studies on bacteria-free animals, calcification mechanisms, the discovery of the relation between fluorides and dental health have added significantly to our knowledge of biological factors that underlie dental health. It is significant that whereas only forty-six papers were presented at the International Association for Dental Research in 1928, there were 331 papers read in 1960. Only fourteen of the 43 American dental schools in existence in 1924-25 had budgeted for research. In 1958, only one school had no funds for research. The schools reported more than \$4.5 million spent for research, an average of about \$100,000 per school — more than one-hundred times as much as 35 years ago. Most

important, the increased number of personnel engaged in dental research and the improved training of the personnel has broadened the scope of dental research.

R. G. Ellis

A Handbook of Differential Diagnosis.

Prepared by: M. M. Ash.

Published by: The C. V. Mosby Co., St. Louis, 1961.

Pages: 234. Price: \$6.50.

This publication is an addition to the Post-graduate Dental Lecture Series. Dr. Ash, with Drs. Kerr and Millard, has already made a distinctive contribution in his text *Oral Diagnosis*, published in 1959 by the C. V. Mosby Co. Now he had developed "a brief and practical index of the oral manifestations of disease."

The handbook is not considered to take the place of a complete text in which one would find much greater detail; rather, the author has taken the essential signs and symptoms of the various disorders and grouped them in a way that comparison is made easier, and a diagnosis more certain.

The topics listed alphabetically in the table of contents include allergy, anaemia, breath odours, communicable diseases, emergencies and treatment, spread of infections, pain of oral and paraoral structures, disturbances of salivary glands, swelling, disturbances of the tongue, manifestations of vitamin deficiencies, etc.

The index is quite detailed and includes headings not only of diseases, but of signs and symptoms. The latter are valuable to the dental student, who is probably swamped with a mass of lecture facts that are as yet not mentally sorted out and pigeonholed. There is a cross indexing of material in the general text, as well as the index.

The dental practitioner should find this handy pocket book a useful reference, and a time saver in developing a diagnosis.

O. J. Yule.

Textbook for Dental Nurses.

Prepared by: H. Levison and P. E. Grundy.

Published by: The Ryerson Press, Toronto for Blackwell, Oxford, 1960.

Pages: 140. Illustrated. Price: \$4.75.

For a dentist who wishes to train his own assistant or for a dental assistant starting her career, this book contains a comprehensive yet concise coverage of all phases of dental assisting.

The larger part of the book deals with dental anatomy, physiology and dental surgery, stressing the duties of sterilization, administration of drugs, patients' care and first aid, etc., and briefly touching on various phases of prosthetic, radiographic and operative dentistry procedures. There are a few illustrations and anatomical drawings but not as many as we would like to have.

According to the preface it is stated that "There is not the least doubt that any dental surgery assistants should know all that it contains . . . to enable them to pass the British Dental Nurses' and Assistants' Examination."

W. M. Leask.

to the patient becomes a matter of diagnostic skill and judgement.

In this text the author only discusses inlays and three-quarter crowns. It is a well written and beautifully illustrated book.

In explanation of different types of cavity preparation, the author invokes principles of physics and mechanics which are frequently ignored or neglected by many clinicians. These preparations can also be employed for individual restorations.

The author also devotes a number of chapters to some of the newer impression materials for use in crown and bridge prosthodontics.

H. M. Robichaud

Inlays et Onlays—Bridges sur dents vivantes

Préparé par: René Le Huche.

Édité par: Julien Prêlat, Editeur, Paris, 1960. Ed. 2.

Pages: 288. Illustré

Prix: 48 nouveaux-francs, plus frais d'envoi.

L'inlay et l'onlay (couronne $\frac{3}{4}$) peuvent être employés avec grand succès comme pilier pour pont dentaire fixe dans des cas appropriés et bien choisis.

La couronne complète en or ou la couronne complète avec facette labiale de résine ou de porcelaine, tout comme l'inlay ou l'onlay ont des avantages et des désavantages qu'il faut connaître et bien évaluer. C'est une question de diagnostic et de bon jugement, de se servir du genre de pilier pour pont fixe qui offrira le plus d'avantages à notre patient.

Dans ce volume, l'auteur parle de l'inlay et de l'onlay seulement. C'est un texte bien écrit et très bien illustré.

Pour expliquer différents genres de préparation de cavité, l'auteur fait appel aux lois de la physique et de la mécanique, lois qui souvent sont ignorées ou négligées par beaucoup d'opérateurs. Ces préparations peuvent servir aussi pour des restaurations individuelles.

L'auteur consacre aussi plusieurs chapitres aux nouveaux matériaux qui sont à notre disposition pour la prise d'empreintes en couronnes et ponts.

Inlays and three-quarter crowns can be successfully employed as attachments to fixed bridge abutments in appropriate selected instances.

The full gold crown with labial porcelain or resin veneer, like the inlay or the three-quarter crown has advantages and disadvantages of which one must be aware and which must be weighed. Selection of the type of abutment which offers the greatest advantage

Dental Hypnosis Handbook

Prepared by: Jacob Stolzenberg.

Published by: Burns & MacEachern Ltd., Toronto, for Wilshire Book Co., Hollywood, 1961.

Pages: 152. Illustrated. Price: \$2.00.

The author of this small book is also the author of a much larger text, *Psychosomatic Dentistry and Controlled Therapeutic Suggestion*. The handbook is a small edition of the larger one with, of course, some differences. He covers much more of the psychosomatic aspects of dentistry than straight hypnotic information. This has the advantage of orientating the reader to the effect of the mind on the body.

The book is divided into six sections. The introduction deals with the aetiology of specific disease entities that have a psychological background. The chapter on psychosomatic problems in dentistry is particularly informative for a dental student or young graduate as is the following chapter which deals essentially with making a success of practice by the use of the correct approach to patient-dentist interpersonal relationship. Although the attributes of a successful dentist, namely enthusiasm, confidence, understanding, kindness and sympathy, are well known, the repetition is worthwhile. The fourth section on psychosomatic therapy points out the importance of the use of positive suggestion, with or without hypnosis, and when and where this is effective. The next chapter deals with the history of hypnosis, dynamics, qualifications of the operator, stages of hypnosis, techniques and case reports. Because the author has used hypnosis successfully for more than a quarter century and has worked with physicians on medical problems, it would be wise to point out that one of the basic rules for the use of hypnosis by a dentist is that it be confined to dental

problems only, and never used for medical problems. Such cases can and should be referred to physicians trained to use it. The sixth section is a bibliography of ten pages which would provide a student of psychosomatics and hypnosis with a great deal of reading material.

Even if the dentist never intended to use hypnosis, this book would provide him with much worthwhile information and, therefore, the title should also indicate that it covers the topic, "what makes patients react the way they do." The author leans heavily on the Freudian psychiatric approach. In the author's discussion regarding bruxism, he stated that it was due to frustration and aggressiveness. This is often the case, but any emotional stress will cause bruxism as will intestinal parasites and intestinal disturbances, interference in the occlusion, hurry or worry, and habit, etc. There is certainly plenty of evidence that the emotions affect the periodontal tissues. The cases illustrated in the photographs, however, also had local therapy. Therefore they are not good examples of the results obtained from dental psychotherapy alone.

Another Freudian approach that might be questioned is the statement that children and

women who love sweets do so as the result of the displacement of sexual frustration to the oral sphere. Perhaps streetwalkers should be investigated to see if they are relatively free of dental caries. The author overly emphasizes that sadism stems from repressed sexuality and that some men may become doctors because they have cruel, brutal and sadistic tendencies. This is not borne out by this reviewer's experience in teaching dental students and dentists.

The author wisely points out that nobody should use hypnosis if they are the type who likes to control people. However, since the patient in a hypnotic trance can accept or reject any suggestion of the hypnotist and can bring himself out of the trance state at will, the student of hypnosis with the desire to control would soon learn that this is not the case. The lay hypnotist usually tries to create the impression that the subject cannot resist his occult powers, that strong control is vested in him. This is very damaging to the use of hypnosis, and an ethical doctor never would make any such suggestion to a patient.

This is a small book of 136 pages, but it provides a great deal of food for thought and discussion.

Donald S. Moore.

THE LIBRARY

Additions

ANAIAS DA FACULDADE DE FARMACIA E ODONTOLOGIA DA UNIVERSIDADE DE SAO PAULO. Volume XVI, 1959. 347 p. illus.

HAMPSON, E. L. Textbook of Operative Dentistry. London, Heinemann, 1961. 298 p. illus. \$9.00

LEE, P. W. Ceramics. New York, Reinhold

Publishing Corporation, 1961. 209 p. illus. \$6.50

Le HUCHE, R. Inlays et onlays; bridges sur dents vivantes. 2nd ed. Paris, Julien Pr  lat, 1960. 288 p. illus. 48 nouveaux-francs, plus postage

LOCKE, R. S. Local anesthesia: its uses and abuses. Practical Dental Monographs, May, 1961. 31 p.

LUNDSTROM, A. ed. Introduction to orthodontics. New York, McGraw-Hill Book Company, Inc., 1960. 315 p. illus.

OLIN, W. H. Cleft lip and palate rehabilitation. Springfield, Thomas, 1960. 194 p. illus. \$10.00

ONTARIO COMMITTEE ON FLUORIDATION. Report of the Committee on Fluoridation of Municipal Water Supplies. Toronto, 1961. 177 p. illus.

U. S. DEPARTMENT OF COMMERCE. NATIONAL BUREAU OF STANDARDS. Handbook 78. Report of the International to three million volts. Washington, 1961. 52 p. 25 cents

U. S. DEPARTMENT OF COMMERCE. NATIONAL BUREAU OF STANDARDS.

Handbook 78. Report of the International Commission on radiological units and measurements (ICRU) Washington, 1961. 90 p. 65 cents

U. S. SCHOOL OF AVIATION MEDICINE. The effects from massive doses of high dose rate gamma radiation on monkeys. Edited by John E. Pickering, Wright H. Langham, and Walter A. Rambach. Texas, Brooks Air Force Base, School of Aviation Medicine, February, 1961. 413 p. illus.

WIKSELL, W. Do they understand you? A guide to effective oral communication. New York, The Macmillan Co., 1960. 200 p. illus. \$4.95

THE YEAR BOOK OF DENTISTRY, 1960-1961. Chicago, Year Book Publishers, 1961. 480 p. \$7.50

IN MEMORIAM

Joseph A. Bleakley—Dr. Joseph A. Bleakley of Winnipeg, Manitoba, died on April 24, 1961. He was 76.

Born in North Gower, Ontario, Dr. Bleakley graduated from the Royal College of Dental Surgeons of Ontario in 1908. He practised in Saskatoon until 1921 when he moved to Winnipeg.

Dr. Bleakley is survived by his three sons, Basil, Roland, and Claude; one sister, Miss V. Bleakley and two brothers, William and Wilmot.

William Henry Bulmer — Dr. William Henry Bulmer of Saskatoon, Saskatchewan, died on May 15. He was 91.

Dr. Bulmer was born in Wellington County, Ontario. He graduated from the Royal College of Dental Surgeons of Ontario in 1898 and practised in Beamsville, Ontario, before moving to Saskatoon.

He is survived by four daughters, and two sons.

Trygve Atlo Alstad — Dr. Trygve Atlo Alstad of Toronto, Ontario died on May 5. He was 54.

Dr. Alstad was born in Trondhjem, Norway in 1907 and received his early education there. He graduated from the Faculty of Dentistry, University of Toronto in 1932 and opened his practice in Toronto.

Dr. Alstad received a citation from the Norwegian government for service in Canada during World War II as chairman of the Norwegian Air Fund Association. He collected funds from all over the world for the assistance of Little Norway Camp in Toronto, and other Norwegian Air Force Stations.

He is survived by his wife, Catherine; two daughters, Mrs. W. Matthews and Mrs. K. Reed, Jr.; and one grandson.

Norman Alexander Dobbie—Dr. Norman Alexander Dobbie of Toronto, Ontario, died on May 13. He was 62.

Born in Toronto in 1898, Dr. Dobbie joined

the Canadian Army following graduation from Malvern Collegiate Institute during World War I. He later served overseas as a wireless operator in the Royal Canadian Navy. Following the war, Dr. Dobbie attended the Royal College of Dental Surgeons of Ontario and graduated in 1923. He practised in the same office for 32 years following which he was a dentist with the North York board of education for five years until he became ill a year ago.

Dr. Dobbie is survived by his wife Evelyn; a son Norman; two daughters, Mrs. R. Welsh and Mrs. R. F. Billings, and one granddaughter.

Thomas George Hollingshead—Dr. Thomas George Hollingshead of Toronto, Ontario died on May 8. He was 73.

Dr. Hollingshead was born in Tottenham, Ontario and received his early education at Woodstock. He graduated from the Royal College of Dental Surgeons of Ontario in 1914 and practised in Brampton until 1915. He was a captain in the Canadian Army Dental Corps (overseas) from 1915 to 1919. In 1920 he went to Toronto where he practised until his retirement in January 1958. Dr. Hollingshead for many years served as a clinician on the staff of the Division of Dent-

al Services, Toronto Department of Public Health.

He is survived by his wife, Mabel; a daughter, Mrs. S. L. Patterson; a brother, Herbert, and two sisters, Mrs. L. C. Armstrong and Mrs. F. Bradley.

Leo Dealy Kay — Dr. Leo Dealy Kay of North Sydney, Nova Scotia, died on May 21. He was 66.

He was born in Canso, Nova Scotia in 1894. In 1923 he graduated from the Royal College of Dental Surgeons of Ontario and practised in New Waterford and Sydney Mines.

Dr. Kay is survived by one son, Rev. Hugh Kay; three daughters, Mrs. K. Regan, Mrs. L. Knickle, and Sister Mary Leo, O.L.M.; two brothers and two sisters.

Raymond D. Mulloney—Dr. Raymond D. Mulloney of Kentville, Nova Scotia, died on May 24, 1961. He was 89.

Born in Wolfville, N.S., he received his early education there. He graduated from Tufts University in 1894 and practised in Halifax and Kentville. He retired in 1946.

Dr. Mulloney is survived by two daughters, Mrs. A. W. H. Arundel and Miss E. Mulloney.

DENTAL PERSONNEL IN CANADA

In January 1961, 74 dental hygienists were registered in Canada. There are no dental hygienists in Newfoundland, New Brunswick or Quebec. — C.D.A. Bureau of Economic Research.

CANADIAN DENTAL ASSOCIATION RETIREMENT SAVINGS PLAN

Statement of Unit Valuations as of May 31, 1961

GOVERNMENT BOND FUND

Investment at market value	\$171,278.99
Accrued income (interest)	786.75
Cash on deposit at interest	75.36
TOTAL	\$172,141.10
Less: Administration fee of $\frac{1}{8}$ of 1% of \$172,141.10	215.18
MARKET VALUE OF FUND	\$171,925.92
Units outstanding	15,884.013
UNIT VALUE OF FUND	\$ 10.823

CORPORATE BOND FUND

Accrued income (interest)	\$306,182.89
Investment at market value	1,501.02
Cash on deposit at interest	6.19
TOTAL	\$307,690.10
Less: Administration fee of $\frac{1}{8}$ of 1% of \$307,690.10	384.60
MARKET VALUE OF FUND	\$307,305.50
Units outstanding	26,830.069
UNIT VALUE OF FUND	\$ 11.453

COMMON STOCK FUND

Investment at market value	\$623,468.47
Accrued income (interest)	—
Cash on deposit at interest	499.81 (DR)
TOTAL	\$622,968.66
Less: Administration fee of $\frac{1}{8}$ of 1% of \$622,968.66	778.70
MARKET VALUE OF FUND	\$622,189.96
Units outstanding	44,396.836
UNIT VALUE OF FUND	\$ 14.014

Trustee: The Royal Trust Company.

Information about the C.D.A. Retirement Savings Plan is available from Mr. J. T. Staddon, 2249 Yonge St., Toronto 7, Ont. Telephone HU. 1-5731.

ANNOUNCEMENTS

Conventions of the Canadian Dental Association

1962	Vancouver, British Columbia	June 3rd-6th
1963	Toronto, Ontario	May 19th-22nd
1964	Edmonton, Alberta	June 28th-July 1st
1965	Quebec City, Quebec	May 30th-June 2nd
1967	Toronto, Ontario	May
(Centennial Celebration of Dentistry in Canada)		

FUTURE EVENTS

Date	Function	Location	Officer	Address
July 2-5, 1961	Atlantic Provinces Dental Convention	Charlottetown, P.E.I.	Dr. L. I. Duffy,	302 Queen St., Char- lottetown, P.E.I.
July 9-15, 1961	Fédération Dentaire Internationale	Helsinki, Finland	Dr. G. H. Leatherman,	35 Devonshire Place, London W.1, Eng.
Aug. 14-18, 1961	16th Australian Dental Congress	Sidney, Australia	Mr. D. Freeman,	T. & G. Bldg., Park St., Sidney, Australia
Sept. 8-10, 1961	Northern Ontario Dental Association	The Armoury, Sault Ste. Marie, Ont.	Dr. T. G. White,	519 Queen St. East, Sault Ste. Marie, Ont.
Sept. 12-15, 1961	2nd Intl. Czechoslovak Stomatol. Congress	Marienbad, Czechoslovakia	Dr. F. Urban,	Karlovo nam, 32, Prague 2, Czechoslovakia.
Sept. 17-19, 1961	Eastern Ontario Dental Association	Chateau Laurier Hotel, Ottawa	Dr. H. B. Squires,	142 Laurier Ave. West, Ottawa, Ont.
Oct. 13-15, 1961	German Dental Association	Mainz, West Germany	Dr. P. Jaeger,	Nikolaistrasse 2, Munich 23, W. Germany.
Oct. 16-19, 1961	American Dental Association	Philadelphia, Pennsylvania	Dr. G. N. Casto, Jr.	222 East Superior St., Chicago 11, Illinois.
Oct. 19-21, 1961	Japanese Assn. for Dental Science	Tokyo, Japan	Dr. Macaru Nagao,	4-6 Kudan, Chiyoda-Ku, Tokyo, Japan.
Oct. 23-25, 1961	Montreal Dental Club Annual Fall Clinic	Queen Elizabeth Hotel, Montreal	Dr. J. Vincelli,	6542 Somerled Ave., Montreal, P.Q.
Nov. 12-19, 1961	Uruguay-Argentine Intl. Dental Congress	Montevideo, Uruguay	Dr. J. C. Turrell,	Av. Agraciada 1464 (P.13) Montevideo, Uruguay.
Nov. 20-26, 1961	Congrès de l'Entente Odontologique	Porte de Ver- sailles, France	Dr. J. L. Dephilippe,	39 Boulevard Males- herbes, Paris 8e, France.
Dec. 27-31, 1961	Alpha Omega Fraternity	Queen Elizabeth Hotel, Montreal	Dr. F. Vosburg,	5292 Queen Mary Road, Montreal, P.Q.

POSTGRADUATE AND REFRESHER COURSES (U.S.)

OHIO STATE—October 2-6, 1961—Complete Denture Prosthodontics.

OHIO STATE—November 13-17, 1961—General Anaesthesia.

OHIO STATE—November 27-29, 1961—Oral Surgery.

Other information concerning dental meetings outside Canada is available at C.D.A. Headquarters upon request.

L'Association Dentaire Canadienne.

JOURNAL

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juillet 1961

Lésions de l'émail produites "in vitro" par une solution tampon de lactate*

par BERTRAND LEMIEUX, B.A., D.D.S., Ste-Foye, P. Qué.

INTRODUCTION

Un grand nombre de travaux ont été réalisés sur la carie "in vitro." Notre faculté s'intéresse beaucoup au processus de la carie et des travaux ont déjà été faits en ce sens avec un certain succès¹. En effet, si l'on mettait à point ce processus, nous jetterions un peu de lumière sur les causes de la carie, son action, ses altérations, etc.

En 1955, Hals, Mörch et Sand², ont produit des lésions de l'émail avec le lactate de sodium tamponné à différents pH. Ils ont étudié ces lésions en éclairage polarisé. Ce travail a attiré notre attention. Les recherches effectuées par ces auteurs avaient pour but d'élucider le problème des premiers stades de la déminéralisation de l'émail dentaire humain.

Les dents utilisées étaient préparées selon la technique de Brudevold³. Une solution tamponnée de lactate à pH et à température (37°C.) constante était mise en contact avec une partie de l'émail. Le pH des solutions employées variait de

*Département de Pathologie buccale, Faculté de chirurgie dentaire, Université de Montréal.

Ce travail a été subventionné par une bourse de l'Association dentaire canadienne et facilité par le Conseil National des Recherches : "Octroi DE-8."

3.51 à 5.70. Les surfaces traitées étaient soumises à l'action des solutions pour une période variant de 15 minutes à 12 jours. Environ 200 essais ont été ainsi réalisés. L'examen de coupes amincies par usure, en lumière polarisée, a fait l'objet d'un soin tout particulier.

Deux types principaux d'altérations ont été observées : d'une part, des taches internes et, d'autre part, des taches externes.

Les taches externes se présentaient macroscopiquement comme des zones opaques, blanchâtres, avec ou sans perte de substance. L'examen au microscope montrait une zone de déminéralisation simple. Certaines coupes montraient une perte de substance dans la zone déminéralisée.

Les taches internes se présentaient macroscopiquement comme des zones faiblement opaques à surface brillante et apparemment intactes. Au microscope, on notait une zone déminéralisée sous une couche superficielle minéralisée.

Il semble que le type de tache obtenue dépend du pH de la solution tampon et de son temps d'action. Les taches externes apparaissent en-dessous d'un pH 4.12 et au-dessus d'un pH 5.25, indépendamment de la durée de l'épreuve. Par contre, les taches internes n'apparaissent qu'à un pH variant entre 4.12 et 5.25 et après un contact de courte durée. En effet, à ces derniers pH, si l'on prolonge la période d'action de la solution tampon, on obtient des taches externes. Le temps nécessaire pour produire une tache externe augmente avec l'accroissement du pH.

Ceci résume le travail effectué par Hals, Mörch et Sand. Nous avons repris cette idée dans nos travaux afin de pousser l'examen de ces lésions avec des moyens différents mis en pratique à notre faculté.

MATÉRIEL ET MÉTHODES

Nous avons employé des dents extraites depuis un certain temps et qui avaient été fixées dans la formaline 8%. Avant l'usage, les dents étaient lavées à l'eau pendant 24 heures.

TABLEAU 1 Travaux préliminaires

pH	Sel (cc)	Acide (cc)	No
3.91	60	40	1
4.93	95	5	2
5.12	102	3	3
5.43	90	1	4

Par un examen macroscopique, ces dents avaient été sélectionnées sans tenir compte de l'âge du patient, mais plutôt en considérant les surfaces intactes (buccale ou linguale). Nous avons employé des incisives, des canines et des prémolaires. Après avoir été nettoyées (sans altérer leur surface d'émail), les dents étaient recouvertes d'une couche de cire bleue; nous pratiquons une fenêtre de 2 à 4 mm. sur la surface qui nous semblait la plus propre. Parfois, sur les prémolaires, quand les deux surfaces, buccale et linguale, nous paraissaient intactes, nous laissons deux fenêtres. Les dents ainsi recouvertes de cire bleue étaient submergées dans une solution tampon de lactate de sodium à un pH connu. Le tout était mis à l'étuve (37°C) pour une période de 4 à 7 jours selon le pH de la solution.

Dans les travaux préliminaires, nous avons employé quatre solutions de lactate de différents pH, mais toujours préparées à partir du lactate de Na 0.5 M et de l'acide lactique 0.5 M, variés quantitativement.

Après une analyse préliminaire des résultats, nous avons jugé que les solutions à pH 5.12 et 4.93 donnaient des résultats assez satisfaisants pour nos travaux, quant au genre de lésions et à la période de temps écoulé pour les produire.

Nous avons ainsi créé plusieurs lésions. Avec une centaine de dents nous avons fait :

- 1—des coupes par usure pour examen microscopique.
 - coupes dans l'eau distillée
 - coupes dans le baume du Canada
- 2—des coupes pour examen en lumière polarisée.

- 3—des lésions qui ont été usées et polies perpendiculairement aux bâtonnets pour fin d'examen en lumière réfléchie⁴.
- 4—avec un dernier groupe, nous avons enlevé complètement la cire après production des lésions et nous avons laissé les dents dans l'eau pour quelques heures, après les avoir légèrement nettoyées. Les dents ont été ensuite mises dans une solution de bleu de toluidine 0.5% pour 3 heures. Lavées à l'eau courante pour une ou deux minutes, nous en avons ensuite fait des coupes pour un examen microscopique. Cette dernière expérience fut faite pour étudier la perméabilité de la lésion.

RÉSULTATS

Après un examen macroscopique et microscopique, des coupes longitudinales minces ont été usées et, à la suite d'un examen en lumière traversante et en lumière polarisée pour les coupes dans l'eau distillée, nous avons constaté, comme Hals, Mörch et Sand, des lésions externes et des lésions internes.

Les lésions externes (figure 1) se présentent macroscopiquement comme des taches opaques, blanchâtres qui ressemblent, d'une façon assez marquée, à certaines formes de caries. L'examen microscopique des coupes, sans perte de substance, montre une déminéralisation dans la couche externe de l'émail qui est

TABLEAU 2 Résultats

Dents	Surface	pH	Durée de l'exposition	Nombre de dents	Usage des dents
pré-molaires	buccale et linguale	5.12	6 jours	5	lumière réfléchie
pré-molaires	buccale	5.12	6 jours	7	coupes usées et mises dans le baume du Canada
pré-molaires	buccale et linguale	4.93	50 heures	11	coupes usées et mises dans l'eau distillée
pré-molaires	buccale	4.93	50 heures	1	coupes usées et mises dans l'eau distillée
incisives inférieures	buccale	5.12	6 jours	8	lumière réfléchie
latérales supérieures	buccale	5.12	5¾ jours	4	lumière réfléchie
canines	buccale	5.12	5¾ jours	1	lumière réfléchie
centrales supérieures	buccale	5.12	7 jours	3	lumière réfléchie
canines	buccale	5.12	7 jours	4	lumière réfléchie
toutes sortes	buccale	5.12	6 jours	21	lumière réfléchie
pré-molaires	buccale	5.12	7 jours	21	perméabilité au bleu de toluidine
toutes sortes	buccale	5.12	7 jours	20	lumière réfléchie

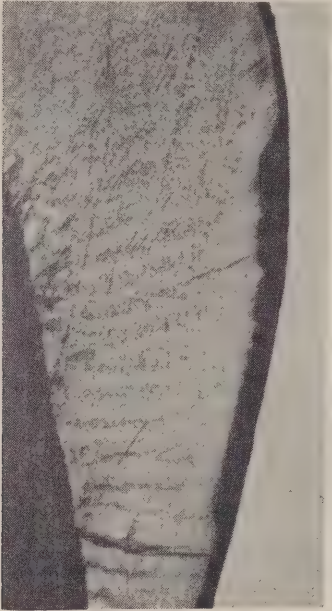


FIGURE 1

Exemple d'une lésion superficielle. Déminéralisation foncée sans perte de substance. (1-Leica)

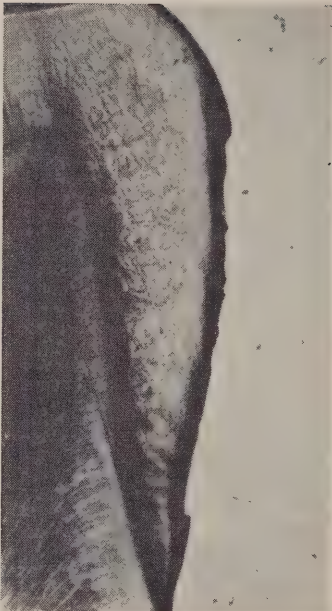


FIGURE 2

Exemple d'une lésion avec déminéralisation et perte de substance, (1-L)



FIGURE 3

Exemple d'une lésion interne: zone claire près de la surface — très peu déminéralisée; zone foncée — déminéralisée (10-L).

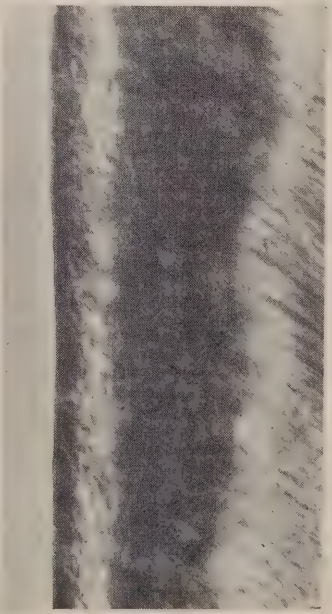


FIGURE 4

Détails de la figure 3 (40-L).

séparé de l'émail sain sous-jacent par une zone de transition. L'examen des coupes avec perte de substance, montre une étroite zone déminéralisée bordée en dedans par une couche de transition (figure 2).

Les lésions internes (figure 3) se présentent macroscopiquement comme des zones faiblement opaques à surface plutôt lisse. L'examen au microscope d'une telle lésion montre une couche superficielle d'émail, d'épaisseur variable, légèrement déminéralisée. C'est en-dessous de cette couche que l'on rencontre l'altération réelle dont l'aspect caractéristique consiste en une zone centrale déminéralisée, entourée par des zones de transition. Ce phénomène nous rappelle des zones superficielles minéralisées de certaines caries (figure 4).

Sur les dents entières à surface naturelle, nous avons vu au microscope, en lumière réfléchie, des limites linéaires précises différentes des contours irréguliers de la carie. La décalcification prédomine entre les périkyantes et dans les stries de Retzius comme dans les caries (figure 5).

Les surfaces usées et polies, parallèlement à la surface de l'émail, vues en lumière réfléchie, permettent d'examiner les bâtonnets coupés transversalement.

La déminéralisation de l'émail dans le processus de la carie se manifeste d'abord dans les gaines des bâtonnets (D1), ensuite dans les bâtonnets (D2), puis les bâtonnets et la substance interprismatique sont déminéralisées (D3) et, par après, la masse organique est altérée et homogène (D4) (figure 6)⁵. Dans les lésions de l'émail produites "in vitro," nous avons trouvé une certaine similitude, mais l'action étant de beaucoup plus rapide, les zones sont à peine ébauchées et souvent absentes (figure 8).

Nous avons remarqué au cours de l'étude du processus de la déminéralisation qu'à certains endroits, assez larges et fréquents, l'action se développait à partir de la gaine autant vers la substance interprismatique que vers le centre du bâtonnet: ceci pourrait nous renseigner sur le fait que la déminéralisation s'est produite très rapidement (figures 7, 9, 10).

Sur quelques lésions, nous avons noté des phénomènes de reminéralisation semblables à ceux que l'on trouve dans les caries naturelles⁵. Il s'agissait d'endroits relativement très petits, près de la surface, dans quelques lamelles ou quelques bâtonnets. Nous avons vu, dans la zone de déminéralisation, (D2) ou (D3) des bâton-

FIGURE 5

Surface naturelle de l'émail avec une lésion artificielle vue en lumière réfléchie (ULTROPAK, 6.5-L). Contours précis de la lésion (blanc). La déminéralisation est plus prononcée dans les stries de Retzius.



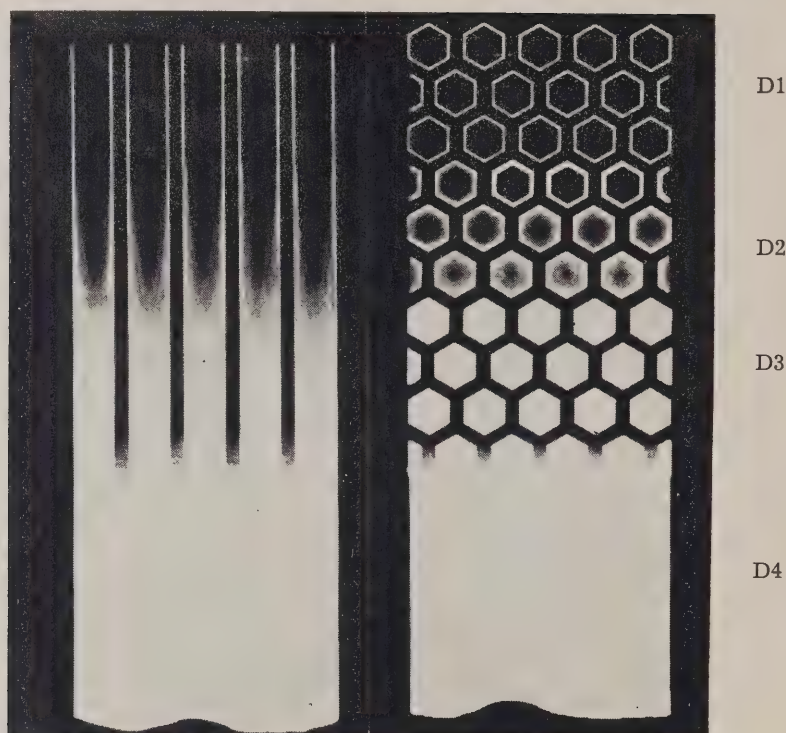


FIGURE 6

Schéma du progrès de la déminéralisation; au début, la gaine s'élargit (D1), ensuite le bâtonnet entier se déminéralise (D2), puis toutes les structures de l'émail sont déminéralisées (D3), finalement la matière organique est altérée et devient homogène (D4)⁵.

nets reminéralisés à leur surface ou entièrement et aussi un peu de reminéralisation diffuse.

Certains bâtonnets particuliers ont été vus dans une zone blanche déminéralisée (D2) ou (D3); ils sont foncés et, de ce fait, reminéralisés soit entièrement, soit à la périphérie. Ils sont parfois plus larges que les autres. La substance interprismatique est reminéralisée autour de ces bâtonnets (figure 11, 12). Ce phénomène est aussi vu dans les caries naturelles⁵.

Après l'étude de la perméabilité, il nous est facile de conclure que toutes les lésions sont très perméables: mais même avec

cette perméabilité, nous avons constaté que certaines lésions étaient un peu moins colorées surtout dans la zone (D1), tandis que les autres étaient très foncées.

DISCUSSION

Ces observations nous permettent de faire des comparaisons entre les lésions produites "in vitro" et les caries.

Dans les lésions produites "in vitro," nous avons remarqué que les zones étaient déminéralisées à un degré égal partout, tandis que dans la carie, la déminéralisation est irrégulière; la déminéralisation est superficielle dans les lésions, alors que

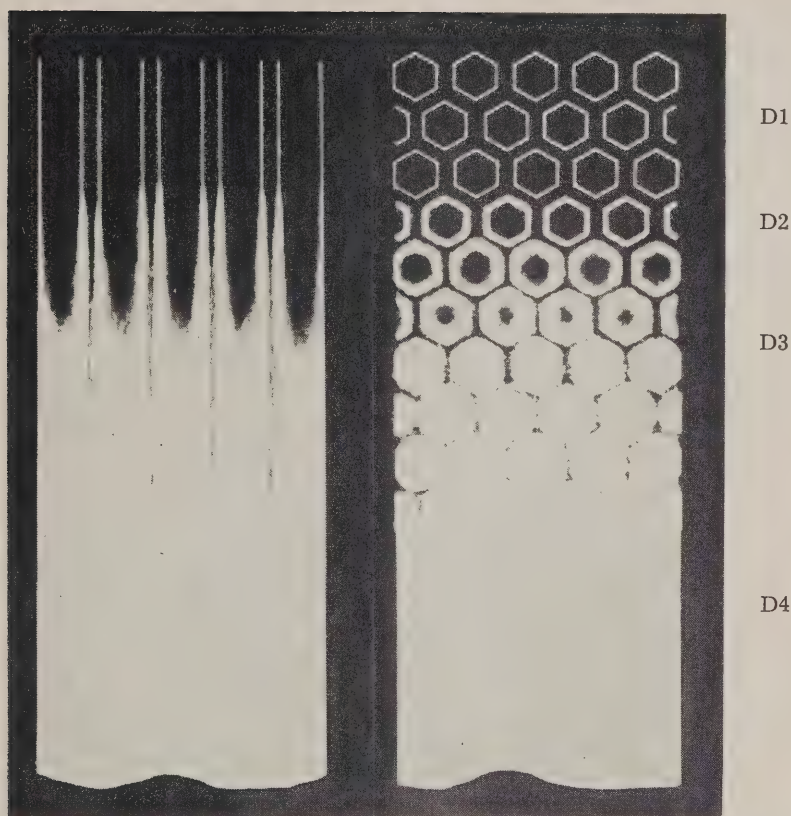


FIGURE 7

Schéma: dans les lésions artificielles, la déminéralisation se fait à partir de la gaine, mais tout en progressant vers le centre du bâtonnet; elle s'étend dans la substance interprismatique.

dans la carie elle est profonde; la lésion est bien délimitée, tandis que dans la carie elle a des limites imprécises; la déminéralisation suit les stries de Retzius dans les lésions aussi bien que dans la carie; les zones (D1), (D2) et (D3) sont présentes dans les lésions; également dans la carie; les lésions sont très peu pigmentées; les caries le sont davantage; la zone (D3) est très fragile dans les lésions, tandis qu'elle l'est moins dans la carie; certains bâtonnets sont larges dans les lésions et également dans la carie; dans

les lésions, la reminéralisation est rare et peu étendue comparativement à la carie où elle est plus fréquente; la perméabilité est excellente dans les lésions, tandis que la carie est plus ou moins perméable.

Nous avons remarqué que la rapidité de la déminéralisation initiale était proportionnelle à l'acidité de la solution de lactate; par la suite, il nous semblait, qu'après un certain temps à l'étuve, l'action du lactate ralentissait à mesure que la lésion se produisait. Cette déminéralisation était uniforme et superficielle. Nous



FIGURE 8

Déminéralisations (D1), (D2) et (D3) qui ressemblent à celles observées dans les caries⁵. Au centre, quelques gaines présentent l'élargissement vers l'extérieur, caractéristiques d'une lésion artificielle (UO, 50).

avons vu que la formation du cône caractéristique de la carie, ne semblait pas respectée; un peu comme dans les cas de carie genre Classe V.

Il semble que l'action de l'acide ne dépende pas seulement de la pénétration des ions H, mais aussi de la diffusion des sels minéraux de l'émail: c'est-à-dire des propriétés de l'émail. En effet, nous avons remarqué que les dents jeunes semblaient être victimes plus facilement du lactate que les dents vieilles. Dans les dents jeunes, on notait souvent une perte de substance, tandis que dans les dents vieilles, la structure organique de l'émail restait inchangée. On pourrait alors penser que les dents vieilles avaient l'émail plus dur et plus résistant, grâce à une minéralisation supplémentaire causée par la salive.

Même si la déminéralisation est mince et uniforme, elle semble très intense, parce que l'on note assez souvent une perte de substance.

CONCLUSIONS

Nous avons donc constaté des lésions externes et des lésions internes. Les

lésions de l'émail que nous avons produites ont certaines similitudes avec la carie, mais l'action des solutions tampon est tellement rapide qu'elle ne nous permet pas d'évaluer les résultats pour établir une comparaison sur toutes les caractéristiques de la carie; mais tout de même, nous avons pu analyser certains points caractéristiques des lésions avec la carie.

RÉSUMÉ

1. Lésions de l'émail produites par une solution tampon de lactate de sodium.
2. Les lésions vues en lumière polarisée ressemblent à la carie.
3. Les lésions vues en lumière réfléchie ressemblent aussi à la carie, mais le progrès de la déminéralisation est particulier (D2 spécial).
4. Sur des zones superficielles, les bâtonnets particuliers sont assez bien reminéralisés.
5. La perméabilité au colorant est complète.

FIGURE 9

Les gaines des bâtonnets s'élargissent vers l'intérieur et aussi vers l'extérieur (UO, 50).



FIGURE 10

Autre exemple semblable à figure 9 (UO, 50).

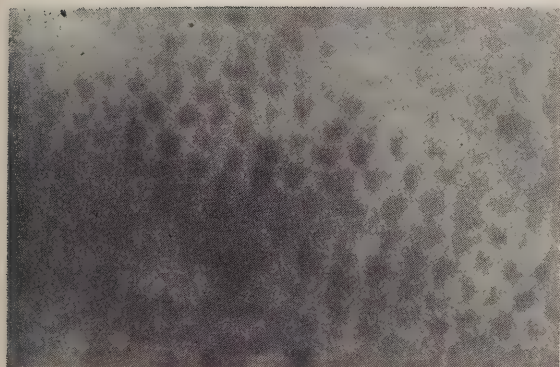
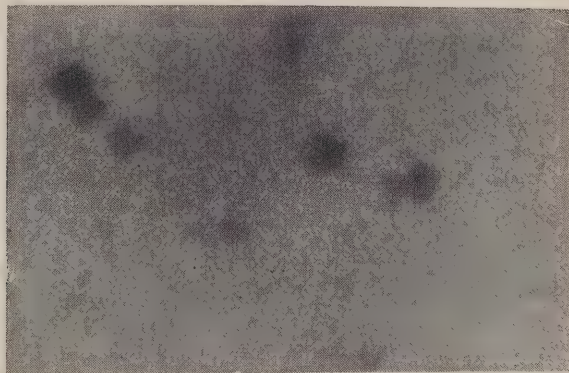


FIGURE 11

Bâtonnets plus gros (foncés) présentant une reminéralisation. Phénomène vu aussi dans les caries naturelles, quoique plus rarement. (UO, 50).



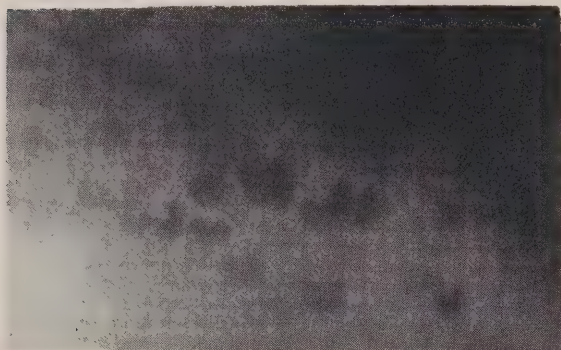


FIGURE 12
Autre exemple semblable
à figure 11, (UO, 50).

SUMMARY

This article reports results of studies that have been made of the production of dental caries *in vitro* by contact with a buffered solution of sodium lactate.

This contact produced demineralization of the enamel. The lesions, examined through polarized light, appear like caries; examined through reflected light, they also appear like caries, but the demineralization process is particular. Some specific areas show particular remineralization of the enamel rods. The penetra-

tion of colouring matters is constant, complete and homogeneous.

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Congrès de l'Association dentaire de la province de Québec, à Sherbrooke

par CHARLES TESSIER, D.D.S., Sherbrooke, P. Qué.

Un autre Congrès de l'Association Dentaire de la Province de Québec avait lieu à Sherbrooke, Qué. les 25, 26 et 27 mai derniers. C'était le sixième. Les organisateurs en sont d'autant plus fiers que tous les congressistes semblent en être partis complètement satisfaits.

Les conférences et cliniques ont attiré des assistances aussi attentives que nombreuses. Il faut en louer les conférenciers: les docteurs Hervé Deschênes, Zdenek Mézl et Roger Grégoire (dentisterie opératoire à haute vitesse), Jean Nadeau et Antoine Raymond (chirurgie pré-pro-



Présentation d'un certificat de membre honoraire du Collège des Chirurgiens-Dentistes de la province de Québec au docteur Valmore Olivier, de Sherbrooke, au cours du Congrès; de g. à d. les docteurs Olivier; Rémy Langlois, président du Collège; Robert Le Blanc, registraire; Victorien Dubé, membre de l'Exécutif.

thétique) et Zoltan B. Nyeste (administration de bureau); et également les cliniciens, dont les exposés leur font honneur: les docteurs Jacques Fiset (prothèse partielle), I. L. Feinchnneider (endodontie en rapport avec la réhabilitation buccale), Donald Kepron (prothèse) et Mr. T. F. Nagy, T. D. (technique du matériel Valplast pour prothèse).

Comme il est bon de se détendre, les congressistes étaient invités à un après-midi consacré au sport. Un tournoi de golf s'est transformé, à cause de la température, en un tournoi de quilles, où hommes et dames se sont lancés à cœur joie et avec un entrain sans pareil. Un coquetel et un buffet dansant complétaient cette partie du Congrès.

Une causerie intitulée "Paris en octobre", donnée par Monsieur Claude Michel, agent de voyage, ouvrait le programme des dames, qui a mené celles-ci tour à tour à la visite guidée du Campus déjà impressionnant de la jeune Université de Sherbrooke et à un défilé de modes estivales et sportives donné dans une atmosphère presque enchanteresse.

Des invités de marque ont rehaussé de leur présence ces activités annuelles de

l'Association: les autorités civiles et religieuses de la ville de Sherbrooke, qui avaient d'ailleurs reçu les congressistes, et l'autorité gouvernementale, en la personne du Premier Ministre de la Province de Québec, l'honorable Jean Lesage, qui, accompagné de sa charmante épouse, est venu partager le banquet de clôture avec les congressistes. Tous ont fort goûté la présence de ces dignitaires, qui manifestaient ainsi leur appui à notre profession.

Somme toute, l'Association Dentaire de la Province de Québec, malgré sa jeunesse, montre déjà des signes de maturité; elle prend constamment de l'ampleur que l'on constate surtout à l'occasion de ses congrès annuels. Des confrères venant de tous les coins de la province apportent leur précieux concours et les dirigeants de l'Association ont confiance que d'ici quelques années notre groupement attirera de plus en plus d'adeptes.

Les bases sur lesquelles l'Association a été implantée sont solides et feront d'elle une imposante société qui ira de l'avant en donnant à ses membres autant de fierté qu'ils en auront d'en faire partie.

260 rue Ball

LES ACTUALITES DENTAIRES

Le Canada

REUNION DU CONSEIL D'ENSEIGNEMENT DENTAIRE

Le Conseil d'enseignement dentaire de l'Association dentaire canadienne s'est réuni récemment au Secrétariat de l'Association et une de ses décisions importantes a été l'approbation du curriculum actuel de trois ans de la faculté de chirurgie dentaire de l'Université de Manitoba. Le Conseil a autorisé la Commission d'enquête à se rendre à Winnipeg, l'an prochain, pour évaluer le programme de quatre ans qui sera alors en vigueur.

Toutes les facultés dentaires canadiennes, à la suite de l'enquête qui a été faite, cette année, continuent à être approuvées.

Le Comité national de recrutement a fait rapport au Conseil; celui-ci a approuvé le travail qu'il avait fait jusqu'ici; il a sanctionné son programme et lui a voté un budget pour poursuivre ses activités. Le Conseil a aussi prié le Bureau des recherches économiques de l'A.D.C. de continuer son enquête sur le coût des études dentaires.

Le docteur George A. Brass, de l'Université de Manitoba, en sa qualité de président de la Conférence sur la dentisterie opératoire qui s'est tenue à Toronto récemment, a présenté son rapport au Conseil, qui avait patronné cette réunion de professeurs. Des représentants de toutes les facultés dentaires assistaient à ces assises. La conférence des professeurs de l'an prochain portera sur le diagnostic buccal et l'établissement des plans de traitements et elle aura comme président le docteur R. H. Bingham, de Dalhousie.

La plus grande partie des délibérations du Conseil a porté sur la formation du personnel auxiliaire; il approuve temporairement le curriculum que lui a proposé l'Université d'Alberta pour la formation des hygiénistes dentaires. Le Conseil a nommé un sous-comité pour étudier la question de formation du personnel auxiliaire.

LE CONSEIL CANADIEN DES EXPOSITIONS SCIENTIFIQUES ACCEPTÉ LA PARTICIPATION DE L'ASSOCIATION

L'Association dentaire canadienne est devenue l'un des treize membres du Conseil canadien des expositions scientifiques. Les objectifs du Conseil sont de stimuler les jeunes Canadiens à une meilleure compréhension des réalisations de la science et des recherches et d'aider les professions scienti-

fiques à leur progrès et à leur enseignement.

Le Conseil Exécutif de l'Association dentaire canadienne, à la demande du Comité national de recrutement, a posé sa candidature pour devenir membre. M. Ken. L. Croft, directeur du Bureau des renseignements au public a été nommé pour représenter l'Association au Conseil.

De plus en plus, ces expositions scientifiques deviennent populaires aux Etats-Unis et au Canada. Ces expositions consistent tous les ans dans un étalage des expériences, des projets et des collections scientifiques réalisés par les élèves des écoles secondaires. Ces expositions ont lieu à divers endroits, dans des collèges ou des écoles d'une région ou d'une province, à ce temps-ci de l'année. Le Conseil canadien des expositions scientifiques espère organiser une exposition nationale en 1962.

REVISION DU FASCICULE "LA CARRIÈRE DE DENTISTE"

Le fascicule "La carrière de dentiste" vient d'être révisé; il a maintenant une nouvelle couverture et un nouveau titre "Les avantages des carrières en dentisterie".

Le Comité national de recrutement avait recommandé le remaniement du texte du fascicule et la création d'une nouvelle couverture. Avec ces changements, on croit que le fascicule se comparera avantageusement avec d'autres publications similaires qui sont à la disposition des étudiants des collèges. On peut s'en procurer une copie sans frais. Le prix est de \$0.10 l'unité pour diverses quantités. On invite les dentistes canadiens à en avoir des copies pour les remettre aux jeunes gens intéressés à devenir dentistes. Les comités locaux et provinciaux de recrutement verront sans doute à en distribuer des copies aux dirigeants des écoles secondaires et aux préposés à l'orientation professionnelle.

ASSURANCES POUR LES FRAIS D'ADMINISTRATION

Comment le dentiste paiera-t-il les frais d'administration de son cabinet, s'il tombe malade? Il pourrait, en plus d'une assurance d'invalidité, prendre une assurance spécifiquement destinée à payer les frais de son bureau. Ce genre d'assurance a un gros avantage sur une assurance d'invalidité: les primes peuvent être déduites des revenus pour fins d'impôt. (*Medical Economics*, le 10 avril, 1961). L'Association dentaire canadienne, dans une lettre qu'elle expédie à

ses membres, leur fait part d'un plan d'assurance-groupe pour couvrir les frais de bureau. Ce plan sera administré par le plan d'assurance-pension de l'A.D.C.

ALBERTA

La ville de Leduc approuve la fluoruration.— Le 21 mars dernier, les citoyens de Leduc, Alberta, ont voté en faveur de la fluoruration. Ceux qui avaient droit de vote se chiffraient à 1,369; de ce nombre, 354 ont voté en faveur, 113 contre. La ville de Leduc reçoit son eau d'Edmonton, où on tiendra un plébiscite, l'automne prochain.

Les techniciens pourront confectionner des dentiers directement pour le public.— La Législature d'Alberta vient de passer une loi qui permet aux techniciens de prendre des empreintes, confectionner et ajuster des dentiers pour la population d'Alberta. Par un vote de 36 contre 25, la Chambre a sanctionné le bill no 59, qui incorporait la Société des Techniciens Dentaires Certifiés d'Alberta. Le patient doit, avant de se confier au technicien, obtenir d'un médecin ou d'un dentiste un certificat de bonne santé buccale. La loi prend effet le 1er juillet 1961. Le projet de loi fut présenté comme bill privé dans le but d'incorporer la Société des Denturistes publics d'Alberta. Le comité des bills privés, après un débat orageux, approuva le bill en consentant à en changer le nom en "techniciens dentaires". Le Comité fut aussi d'avis de placer la société sous la juridiction du Ministère du travail plutôt que sous celle de la santé.

Santé—Deux autres bills ayant des rapports avec la dentisterie furent approuvés. Le bill no 52 amende la loi de l'Association dentaire dans le but de clarifier certaines procédures. La bill no 55 est une loi au sujet des techniciens dentaires. Il est appuyé par l'Association dentaire d'Alberta. Il s'inspire de la législation des techniciens d'Ontario. Ces deux projets de loi furent présentés comme des bills du gouvernement.

COLOMBIE BRITANNIQUE

Illégalité des licences spéciales octroyées aux techniciens dentaires de la Colombie britannique.— La Cour Suprême de la Colombie britannique vient d'invalidiser les licences spéciales accordées en vertu de la loi des techniciens dentaires de la Colombie britannique. Le Juge McInnes a rendu son jugement le 7 avril.

En invoquant les raisons de son jugement, le juge déclare: "Je considère que la clause (10) des règlements approuvés selon la loi des techniciens dentaires est ultra vires. Je le fais . . . parce que: 1) la portée de la clause (10) des règlements dépasse les pouvoirs du Bureau; 2) parce qu'ils sont discri-

minatoires; 3) et parce qu'ils sont contraires à l'intérêt public."

La loi des techniciens dentaires de 1958 prévoyait la formation d'un bureau ayant le pouvoir de rédiger des règlements qui ont été sanctionnés en 1960. La clause (10) des règlements permettait l'octroi de licences spéciales aux seuls techniciens qui pouvaient prouver au bureau qu'ils avaient au moins douze ans d'expérience comme technicien dentaire et qu'ils avaient passé les sept dernières années dans une entreprise traitant avec le public de la Colombie britannique. Ces licences spéciales permettaient à ces techniciens de continuer à confectionner des dentiers pour le public, activité qui était auparavant illégale.

La clause (10) venait en conflit avec les termes de la loi dentaire et, d'après plusieurs opinions, contraire aussi à la loi des techniciens dentaires. Le bureau des techniciens a émis quelques 60 licences spéciales à des techniciens qui répondaient aux conditions nécessaires. Des techniciens à qui le bureau avait refusé des licences avaient pris des actions qui ont amené le jugement du Juge McInnes.

ONTARIO

Les dentistes s'occupent de recrutement.— Des étudiants de collèges et des conseillers en orientation professionnelle ont passé une partie de leurs vacances de Pâques comme hôtes des dentistes d'Ontario. Environ cinquante étudiants, dont la plupart avaient des moyennes académiques d'au-de-là 70%, ont visité la faculté dentaire de l'Université de Toronto et ont été accueillis pour une nuit dans des domiciles de dentistes de Toronto. Une centaine de conseillers en orientation professionnelle, qui assistaient au congrès de l'Association de Pédagogie d'Ontario, ont visité aussi la faculté. Le docteur S. A. MacGregor a récemment fait une tournée dans l'est de la province d'Ontario pour adresser la parole sur la carrière de dentiste devant des groupes de parents et d'étudiants.

Les sociétés dentaires locales se sont organisées pour transporter en autobus à Toronto des étudiants de talent et intéressés à la dentisterie. Les étudiants ont vu la faculté dentaire en activité et ont été reçus à dîner avant de se séparer pour se rendre dans les familles de dentistes qui les attendaient pour la nuit.

L'Ontario sanctionne le bill de la fluoruration.—La Législature d'Ontario a sanctionné, le 29 mars 1961, la loi qui permet aux municipalités de décréter par règlement la fluoruration de leur eau d'aqueduc. La loi permet aussi les plébiscites.

On peut lire dans le texte de loi: "une municipalité ou un conseil local, qui possède ou qui dirige un système d'aqueduc, peut, par règlement, établir, continuer ou autoriser

... un système de fluoration en rapport avec cet aqueduc."

Les conseils municipaux, avant d'adopter le règlement, peuvent poser la question suivante à leurs électeurs: "Êtes-vous en faveur de la fluoration de l'approvisionnement d'eau de cette municipalité?" Les conseils doivent agir en conformité avec la majorité exprimée dans les plébiscites. La fluoration, de même, peut être discontinuée, soit par règlement, soit par plébiscite. Une requête signée par dix pour cent des électeurs peut exiger un vote public, soit pour commencer, soit pour discontinuer la fluoration.

Des dentistes participent à un programme de télévision de la Romper Room.—La Romper Room Inc., qui réalise des programmes de télévision pour les enfants, a fait le commentaire suivant au sujet d'un programme auquel participait un dentiste: "La participation d'un dentiste et les conseils qu'il a fournis ont été fort appréciés." Un instituteur qui collabore à ce programme a déclaré: "... des lettres de parents nous remerciant pour cette partie du programme; elles mentionnaient l'effet salutaire exercé chez les enfants pour diminuer leurs craintes et les inciter à se rendre chez le dentiste."

Les programmes Romper Room, télédiffusés durant la semaine de Santé, en mars, avec la collaboration de l'Association dentaire canadienne et de sociétés dentaires locales, mettaient l'accent sur la santé dentaire. On avait organisé la participation de plusieurs dentistes de différentes régions à plusieurs postes pour des émissions couvrant tout le Canada. Les programmes étaient réalisés à divers endroits, mais selon un agencement central. Des programmes du genre sont réalisés aux Etats-Unis durant la semaine de santé dentaire pour les enfants.

Loi sur l'hypnotisme.—La Législature d'Ontario a passé une loi sur l'hypnotisme. Cette loi statue qu'aucune personne ne peut hypnotiser ou tenter d'hypnotiser une autre à moins qu'elle soit un médecin ou un dentiste se servant d'hypnotisme dans l'exercice de sa profession.

Un psychologue ne peut se servir d'hypnotisme qu'à la demande ou conjointement avec un médecin ou un dentiste dûment qualifié.

Le Cabinet s'est vu confier l'autorisation d'élaborer des règlements pour créer de nouvelles catégories de gens susceptibles de se servir d'hypnotisme. Jusqu'à maintenant, rien n'a été fait dans ce sens.

QUEBEC

Amendes de \$5,000 durant deux ans pour avoir exercé illégalement. — Une Cour de Québec, à Sherbrooke, a condamné récem-

ment un nommé Armand Prince à \$1,000 d'amende et aux frais pour avoir confectionné des dentiers, sans avoir de licence de dentiste. On rapporte que Prince a payé \$4,000 d'amendes pour des offenses semblables commises au cours des deux dernières années.

Chronique Internationale

UN CANADIEN GAGNE LE PRIX DE L'ASSOCIATION INTERNATIONALE DES RECHERCHES DENTAIRES

Le docteur Jack G. Dale, un diplômé de l'Université de Toronto et un membre de l'Association dentaire canadienne, a remporté le prix Edward H. Hatton qui est décerné chaque année pour un rapport sur un projet original de recherches dentaires entreprises par un jeune chercheur. Son travail portait sur les facteurs qui influencent la résorption osseuse et sur une nouvelle technique pour évaluer le degré de résorption.

Le docteur Dale a reçu son prix au cours de la réunion de l'Association internationale des recherches dentaires qui a eu lieu récemment. Il est attaché au Département de recherches de la faculté de médecine dentaire de l'Université Harvard et à l'Institut dentaire Forsyth. Le docteur Dale et son épouse Anne, sont tous deux des diplômés qui ont remporté des prix à la faculté dentaire de Toronto.

Le Corps dentaire royal canadien

Le brigadier Baird assiste à d'importantes réunions. — Le brigadier K. M. Baird, directeur général des Services dentaires, a été choisi pour faire partie de la Commission consultative des Services de santé d'urgence. Cette commission remplace le Conseil consultatif des Services médicaux et dentaires de la Défense, établi en 1949. La nouvelle commission a tenu sa première réunion les 29 et 30 mai dernier.

Le directeur général a assisté également à

la réunion du Conseil des gouverneurs de l'Association dentaire du Canada tenue à Saskatoon, du 31 mai au 30 juin dernier.

Mises à la retraite. — Trois officiers dentistes bien connus de l'Armée canadienne ont pris leur retraite au mois de juin; ce sont le colonel H. L. Harris, C.D., Q.H.D.S., D.D.S., le colonel T. L. Marsh, C.D., D.D.S., D.D.P.H., et le capitaine N. S. Gage, C.D., D.D.S.

Le colonel Harris, qui quitte le poste de directeur des Services dentaires (Marine) à la Direction des Services dentaires, à Ottawa, a fait partie du Corps dentaire pendant 22 ans. Il est né à Freeport (N.-E.) et il a fait ses études à Yarmouth (N.-E.) et à l'Université Dalhousie. Il a obtenu son doctorat en chirurgie dentaire à l'Université McGill, en 1934 et, après un an d'internat au cours duquel il s'est spécialisé en chirurgie buccale dans les hôpitaux de Montréal, il a ouvert son propre bureau à Kentville (N.-E.).

Admis au Corps dentaire comme officier en novembre 1939, il s'est rendu outre-mer en 1942 et il a servi au Royaume-Uni et dans le Nord-Ouest de l'Europe. A son retour au Canada en 1945, il a été envoyé à Vancouver (C.-B.). Depuis la fin de la guerre, il a occupé différents postes à Ottawa, Trenton et Halifax. Il a été promu au grade de lieutenant-colonel en 1949 et à celui de colonel en 1956.

Le colonel Harris, qui est marié et père de deux enfants, a accepté le poste de dentiste en chef au Ministère de l'Éducation à London (Ont.).

Le colonel T. L. Marsh occupait, au moment de prendre sa retraite, le poste d'officier dentiste de région, dans la Région militaire du Québec, et celui de commandant de la 15e Compagnie dentaire; il était au Quartier-général, à Montréal. Le colonel Marsh a servi 19 ans dans le Corps dentaire.

Il est né en Angleterre, mais il était jeune quand il est venu demeurer au Canada; il a étudié l'art dentaire à l'Université de Toronto, où il a reçu son diplôme de dentiste en 1932. Il a obtenu son diplôme d'hygiène dentaire publique de la même université en 1952.

Le colonel Marsh s'est enrôlé dans le Corps dentaire en 1942 et il a servi au Canada et au Royaume-Uni et aussi en mer à bord du *Warrior*. Depuis la guerre il a servi, en qualité d'instructeur à l'Ecole du Corps dentaire, commandant de la 1re Compagnie dentaire en campagne en Allemagne, d'officier de l'hygiène publique dentaire au Quartier-général de l'Armée et c'est en 1958 qu'il a été nommé au poste qu'il occupait au moment de prendre sa retraite.

Très intéressé aux recherches médicales et dentaires, le colonel Marsh est membre de

l'American Medical Editors and Authors Association; il a déjà fait partie du conseil d'administration de la Toronto Academy of Dentistry et il a été président des anciens du Club Newman de l'Université de Toronto. Il s'intéresse également beaucoup aux comités formés de professionnels, de journalistes et de spécialistes en recherches.

Le colonel Marsh est marié et père de deux enfants. Il a accepté un poste civil au Gouvernement provincial du Manitoba et il demeurera à Winnipeg.

Le capitaine Gage, qui était officier dentiste au Collège militaire royal du Canada, à Kingston, a servi 16 ans dans le Corps dentaire. Il est né à Kingston, où il a fait ses études primaires et secondaires; il a ensuite obtenu son doctorat en chirurgie dentaire à l'Université de Toronto en 1933, après quoi il est retourné à Kingston pour y ouvrir son propre bureau. Il s'est enrôlé au Corps dentaire en 1939 et, pendant la seconde guerre mondiale, il a servi au Canada, au Royaume-Uni et dans le Nord-Ouest de l'Europe jusqu'en décembre 1945. Il a ensuite été employé à titre de dentiste au Ministère des Affaires des Anciens Combattants à Kingston jusqu'en 1957, alors qu'il a obtenu de nouveau son brevet d'officier dans le Corps dentaire. Il a ensuite servi dans la Région militaire des Prairies et celle du Centre.

Le capitaine Gage, qui est marié et père d'une fille, a accepté un poste dans un hôpital relevant du Gouvernement provincial de l'Ontario.

Tous les membres du Corps dentaire désirent offrir à ces officiers fort estimés leurs meilleurs vœux de succès dans leurs nouvelles carrières.

Promotions.—Le Quartier-général de l'Armée a annoncé dernièrement les promotions suivantes: les lieutenants-colonels C. E. Purdy et A. T. Roger sont promus au grade de colonel, les majors D. H. Hillier et G. MacDougall au grade de lieutenant-colonel, et les capitaines J. I. Gordon et J. J. N. Wright au grade de major.

Le colonel Purdy a obtenu son diplôme de l'Université de Toronto en 1933 et il a exercé sa profession à Toronto jusqu'au moment de s'enrôler dans le Corps dentaire en 1942. Au cours de sa carrière militaire, il a été affecté à l'Ecole du Corps dentaire, des services dentaires et à la Région militaire du Centre. Avant de devenir commandant de l'Ecole du Corps dentaire à Camp Borden, il a commandé la 14e Compagnie dentaire, dont le quartier général se trouve à Winnipeg. Le colonel Purdy est marié et père de deux enfants.

Le colonel Roger est né à Hamilton, mais il a fait presque toutes ses études à Ottawa et il a reçu son diplôme de l'Université de Toronto en 1937. Admis au Corps dentaire en 1939, il s'est rendu outre-mer en 1941 et, pendant quelques années, il a fait partie de l'équipe "maxillo-faciale" à l'hôpital neurologique de Basingstoke. Lors de la démobilisation en 1945, il a accepté un poste au ministère des Affaires des anciens combattants, mais il s'est enrôlé de nouveau au Corps dentaire en 1951. De 1953 à 1960, il a été instructeur en chirurgie buccale à l'Ecole du Corps dentaire et, au mois de juin 1960, il a été nommé commandant de la 12e Compagnie dentaire à Halifax, poste qu'il occupe actuellement. Le colonel Roger demeure à Halifax avec sa femme et ses deux fils.

Le lieutenant-colonel Hillier est né à Toronto et il a fait des études au Parkdale Collegiate. Il s'est enrôlé dans le Corps dentaire en 1944 alors qu'il fréquentait l'Université de Toronto et il a reçu son brevet d'officier au terme de ses études en 1945. Depuis cette date, il a servi à Camp Borden, à Edmonton, dans la 1re Unité dentaire en campagne en Allemagne et à Ottawa. En juin 1960, il a obtenu sa maîtrise en hygiène publique à l'Université du Michigan et il a été affecté à la Direction des services dentaires, poste qu'il détient actuellement. Le lieutenant-colonel Hillier est marié et père de quatre enfants.

Le lieutenant-colonel MacDougall est né à Sherbrooke (P. Qué.). Il a obtenu son baccalauréat ès sciences au Bishop's College en 1942 et son doctorat en chirurgie dentaire à l'Université McGill, en 1945. Il s'est enrôlé dans le Corps dentaire en 1945 et il a servi dans les Régions militaires du Centre, de l'Ouest et des Prairies, de même qu'en Europe et au Moyen-Orient. Il a été affecté au poste qu'il occupe présentement à l'Ecole du Corps dentaire en 1960. Le lieutenant-colonel MacDougall est célibataire.

Le major Gordon est originaire d'Halifax, où il a fait ses études; il a obtenu son diplôme de l'Université Dalhousie en 1944. Il a reçu son brevet d'officier dans le Corps dentaire en 1942 alors qu'il fréquentait l'université et il a été promu capitaine en 1944. Lors de la démobilisation en 1945, il a ouvert son propre bureau à Halifax, où il est resté jusqu'en 1956, date à laquelle il s'est réengagé dans le Corps dentaire. Le major Gordon, qui est célibataire, est affecté au *Stadacona*, à Halifax.

Le major Wright est né à Exshaw (Alb.) et il a fait ses études secondaires à Banff. Il a fréquenté l'Université de l'Alberta sous le régime du Programme d'instruction pour la formation d'officiers des forces régulières (ROTP) et, à la réception de son diplôme en 1956, il a été promu capitaine et affecté

à la Région militaire de l'Ouest. Depuis, il a servi dans les Régions militaires de l'Ouest et du Centre, en mer à bord de l'*Ontario* et au Moyen-Orient. Il se trouve actuellement à l'Ecole du Corps dentaire, à Camp Borden.

Changements dans le commandement. — Le Quartier-général de l'Armée a annoncé les changements suivants dans les postes supérieurs du Corps dentaire:

Le colonel I. A. L. Millar, commandant de la 11e Compagnie dentaire, à Edmonton, est nommé Directeur des Services dentaires (Marine) à la Direction des services dentaires, à Ottawa, en remplacement du colonel H. L. Harris.

Le colonel B. P. Kearney, commandant de l'Ecole du Corps dentaire, au Camp Borden, est nommé commandant de la 11e Compagnie dentaire.

Le colonel C. E. Purdy, commandant de la 14e Compagnie dentaire, à Winnipeg, est nommé commandant de l'Ecole du Corps dentaire.

Le lieutenant-colonel R. B. Jackson, officier dentiste principal à 1re Clinique dentaire, au Quartier-général de l'Aviation à Ottawa, est nommé commandant de la 14e Compagnie dentaire.

Le lieutenant-colonel C. M. Cornish, officier dentiste principal à la Station de l'Aviation à Rockcliffe, est nommé officier dentiste principal à la 1re Clinique dentaire au Quartier-général de l'Aviation.

Le lieutenant-colonel J. G. Butler, Directeur des Services dentaires à Ottawa, est nommé commandant de la 15e Compagnie dentaire à Montréal, en remplacement du colonel T. L. Marsh.

Affectations. — Les nominations suivantes ont été faites récemment parmi les officiers dentistes:

Le capitaine G. I. J. Bisaillon, qui était en service à la 4e Unité dentaire en campagne en Allemagne, a été affecté à la 14e Compagnie dentaire.

Le capitaine M. A. J. Lachapelle, qui était au Camp de Petawawa, a été affecté au *Bonaventure*.

Le capitaine D. J. MacPhee, qui était en service à la Station de l'Aviation à Downsview (Ont.), a été affecté à la 4e Compagnie dentaire en campagne en Allemagne.

Libérations. — Les officiers dont les noms suivent ont obtenu leur libération au terme de leur période de service dans le Corps dentaire et ils ouvriront leur propre bureau:

Capitaine R. A. Bell
Capitaine W. T. Lesage
Capitaine G. G. Tremblay
Capitaine J. L. Dorval
Capitaine J. S. Davis
Capitaine L. A. Reynolds
Capitaine W. R. Black

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The Organization and Conduct of an Evening Course for Dental Assistants

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The great majority of young ladies serving the dental profession as dental assistants has not enjoyed or experienced formal training in respect of the many and varied duties and responsibilities of the assistant in the dental office. In an attempt to provide at least a partial answer for this need the Royal College of Dental Surgeons of Ontario in co-operation with the Academy of Dentistry, Toronto developed and conducted a pilot evening course program utilizing the facilities of Toronto's Central Technical School during

the fall, winter, and spring months of 1960 and 1961. A broad and comprehensive theoretical program was provided in addition to some practical experience to the extent permitted by the physical characteristics of the school. Twenty young ladies availed themselves of the eighty-eight hours of instruction and were permitted to take the examinations established for the course conducted over a period of four hours during the final two evenings of the academic year.

The purpose of this paper is to outline the organization and conduct of this evening course program for dental assistants in the hope that other dental societies not

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presently providing this needed service might employ this information as a basis for establishing similar programs in their respective communities. Such programs enhance the knowledge, competence and understanding of dental assistants which in turn permits the profession to render more effective and more efficient dental service to the public.

CREATION OF THE PROGRAM

The author, believing that a formal evening course for dental assistants might be more readily organized within an already-existing evening course program established by the local educational authorities, arranged an interview with the assistant superintendent of Toronto Secondary Schools. As ample precedents had been established for sponsored courses assurance was given that the educational authorities would co-operate and assist in the creation of the proposed program.

Following the approval of the project by the board of directors of the Royal College of Dental Surgeons of Ontario, formal application for the establishment of an evening course program for dental assistants in Central Technical School was made to the assistant superintendent. This request was granted. It was stipulated that the profession would make provision for lecturers and special equipment and supplies and would submit to Central Technical School a fee of \$10 on behalf of each young lady admitted to the course. The aggregate sum accruing to the school, on the basis of an enrolment of twenty students, represents only a token payment toward the cost of the Board of Education providing the physical facilities within which the program is conducted and for the honorarium to the special teacher acting as course co-ordinator and supervisor.

The R.C.D.S. board appointed a committee to be responsible for all details of the program. This committee consisted of one board member acting as chairman; a representative of the co-operating society, the Academy of Dentistry, Toronto;

and two representatives of the Ontario Dental Nurses' and Assistants' Association. The R.C.D.S. secretary served as secretary of the committee.

COURSE CO-ORDINATOR

If any one individual is more important than any other to the success of a program which utilizes over thirty lecturers it is the course co-ordinator. It was the responsibility of the committee to select the course co-ordinator subject to the approval of the principal of Central Technical School. The course co-ordinator is primarily responsible to the principal for the general conduct of the program. She assures the availability of all the lecturers' requirements, records attendance, reminds the lecturer well in advance of the scheduled evening for his presentation and is generally responsible for class discipline. In addition the co-ordinator recorded constructive observations relative to course content and method of presentation which were of great importance to the committee when reviewing the first year's program. The honorarium of the co-ordinator was provided by the school.

CURRICULUM AND LECTURERS

The committee established the text *The Dental Assistant* by Brauer et al. as the basis for the curriculum of the course although in no way was any of the lecturers circumscribed within the limits of the text. Lectures were held from 7:30 to 9:30 P.M. on Monday and Wednesday evenings throughout the academic year from approximately October 1 to March 30.

In all some thirty-one topics were covered, some on the basis of four hours some utilizing only two. Lecturers were selected having regard for their special interests, abilities, and experience in the various facets of the program. Each lecturer received a token honorarium of \$15 for one evening's lecture. The following is an outline of the curriculum (Table 1):

TABLE 1. Curriculum of evening course for dental assistants.

Subject or Topic	Hours Allotted	Outline of Course
The Dental Assistant in the Profession ¹	4	General description and characteristics of position. Areas of service of the dental assistant. Individual requirements of the position. Dental assistant's importance to dentistry. Other auxiliary personnel. Principles and code of ethics. The dentist as a member of a profession. The dentist's duties to the public. Law and the practice of dentistry.
General Office and Patient Routine ¹	4	The dental office. The dental assistant: factors influencing her position and value to the office. Making the appointment. Receiving patients and visitors. Dismissal of patients. Payment plans. Patient-recall system. Housekeeping duties of the assistant.
Telephone Technique ²	2	The factors influencing acceptable telephone technique especially applicable to the dental office environment.
Dental Deportment ²		The importance of grooming and appropriate attire in the dental office.
Dental Terminology ¹	2	Definition. Dentistry as a profession. Diseases of the oral cavity. Basic and general sciences related to dentistry. Sciences and studies in the field of dentistry. Colloquial terminology. Auxiliary and related services in dentistry.
Professional Records ¹	2	Value to dentist, patient and profession. Selection of record system. Appointment book. Patient folders and case histories. Charts. Vitality tests, radiographic records, study models. Estimates and contracts.
Financial Records ⁴	2	Receipt books. Daily record sheets. Monthly record forms: accounts and receipts. Monthly disbursement and expense record. Summaries. Petty cash. Taxes. Invoices and statements — supplies. Bank deposits. Statements, collection letters. Workmen's Compensation & Dental Welfare forms.
Supplies ³	2	Dental, office, and miscellaneous supplies. Management and responsibility for supplies. Source of supplies. Ordering and receiving supplies. Return of supplies. Back orders. Payment of supplies. Storage and care of supplies.

continued

Subject or Topic	Hours Allotted	Outline of Course
Dental Anatomy and Physiology ¹	4	The anatomy and function of the teeth and their surrounding structures.
Dental Equipment and its Care ⁵	2	The purpose and function of major items of dental equipment and guidance for the care and maintenance of the equipment. Lecture held in the offices of a dental dealer in order to permit discussion with the various items of equipment available.
Dental Instruments and their Care ³	2	The purpose of the more common hand instruments and information relative to the care, washing, sterilization, and storage of these instruments.
Operative Dentistry ¹	4	A brief outline of the principles of operative dentistry. Preparing operatory for patient. Preparing the patient. Principles which apply to assisting at the chair.
Dental Radiology ¹	4	Importance of radiographs in dental practice. Dangers of x-rays and protective measures. X-ray machine, dental films. Dark room procedure, mounting. Dental film mounts and mounting.
Paedodontics — including Child and Parent Management ¹	2	The child in the practice of dentistry with emphasis upon some of the procedures having pertinence to children. Child and parent management also considered.
Orthodontics ¹	2	The role of the dental assistant in that branch of dentistry which deals with the recognition, prevention, and treatment of conditions involving irregularities of the teeth, jaws, and face. Aetiology. Diagnosis. Preventive Orthodontics. Appliances. Responsibilities.
Diet, Nutrition and Oral Hygiene ⁶	4	Definition of diet and nutrition. General public status and concepts of nutrition. Relationship of nutrition to dental health. The essential nutrients. Calories in the diet. Food facts. Diet recommended. Tooth-brushing technique.
First Aid ⁷	4	General applicability of the principles of first aid with particular reference to emergency problems encountered in the dental office.
Dental Pathology ¹	4	Reaction of Tissues to Injury. Developmental anomalies. Dental caries. Erosion. Pulpitis. Abscesses, fistulae, osteomyelitis. Granulomata and cysts. Periodontal disease. Oral lesions.

Subject or Topic	Hours Allotted	Outline of Course
Bacteriology ¹	4	Historical introduction. Physical characteristics of bacteria. Methods of study and identification of bacteria. Methods by which bacteria may produce disease. Resistance to infection by the host. Transmission of disease. Control of bacteria. Bacteriology of certain oral infections and conditions.
Endodontics ¹	2	The role of the dental assistant in diagnosis and treatment of diseases of the pulp and tissues surrounding the root. Diagnosis. Root canal therapy. Pulpotomy. Periapical surgery.
Pharmacology ¹	2	Introduction. Administration of drugs. Weights and measures in drug preparations. Pharmaceutical preparations. Prescriptions.
Oral Surgery and Anaesthesia ¹	2	The dental assistant's role in oral surgery. Some information on local and general anaesthesia.
Dental Materials ¹	4	Gypsum products, investments, impression materials, waxes, and organic denture base materials. Special emphasis given to the handling of plaster, stone, and inlay investment, including actual practice with the material.
Gold, Gold Foil, Rubber Base and Silicone Impressions ¹	4	The properties of golds and their uses. Opportunity is provided to handle impression materials for inlays and fixed bridges.
Silver Amalgam ¹	4	Silver alloy and its uses. Matrices. The role of the dental assistant in the utilization of silver amalgam restorations including actual practice with the material.
Dental Cements ¹	4	Classification of dental cements. Zinc phosphate cements. Copper phosphate cements. Silicate cements. Practical demonstrations of the various mixes are given as well as actual practice with the materials.
Crown and Bridge Prosthodontics ¹	2	Definition. Types of bridges. Importance of a dental bridge. Other services relating to bridges. Porcelain jacket crowns. Acrylic jacket crowns.
Prosthodontics ¹	2	Psychology of denture patients. Complete denture prosthesis. Partial denture prosthesis.

continued

Subject or Topic	Hours Allotted	Outline of Course
Dental Public Health ¹	2	The role of the profession with the community as its patient. The relationship of the private dental practice to the public health program in the area in which the practice is situated.
Dental Research ¹	2	The dental profession's participation in dental research. The contribution of dental research both to the public and the profession.
Organizations Pertinent to the Dental Assistant ³	2	The various associations in which dental assistants may seek membership. The program and functions of these organizations. The major organizations serving the dental profession and the public.

Instructors: 1. Dentist
2. Telephone company representative
3. Dental assistant or dental nurse
4. Administrator, Canadian Dental Service Plans, Inc.
5. Dental supply house representative
6. Dental hygienist
7. St. John Ambulance Society representative

COURSE IN DENTAL ASSISTING

sponsored by

THE ROYAL COLLEGE OF DENTAL SURGEONS OF ONTARIO

in co-operation with

THE ACADEMY OF DENTISTRY, TORONTO

at

Central Technical School, Evening Course Program

Monday and Wednesday evenings, 7:30 to 9:30 P.M.

From October 1, 1960 to March 31, 1961.

Ontario Grade XI or its equivalent required for consideration for admission.

Class Limit — 20

Registration Fee — \$75.00

An application may be obtained on *written* request to:

The Secretary,

Royal College of Dental Surgeons of Ontario,

230 St. George Street,

Toronto 5, Ontario.

FIGURE 1 Announcement of the course for dental assistants.

ANNOUNCEMENT OF THE COURSE

The committee decided to attempt to enroll ten students presently employed in dentists' offices and ten having no practical experience to attempt to determine, within this pilot program, the relative importance of previous practical experience. Accordingly, in advance of the notification in the daily newspaper, the Academy of Dentistry, through its regular bulletin, advised its members of the availability of the course and they, in turn, had opportunity to so inform and encourage participation by their assistants.

After a suitable interval of time an announcement (Figure 1), measuring $3\frac{1}{2}$ x 2 inches, was inserted, one day only, in all editions of one of Toronto's daily newspapers.

ADMISSION REQUIREMENTS AND ACADEMIC FEE

Ontario grade 11 or its equivalent was established by the committee as a basic admission requirement. The length of service as a dental assistant could be considered by the committee as contributing to an academic equivalent.

The fee for the course was set at \$75 per student and of this amount \$10 was forwarded to the school on behalf of each student to cover the basic fee for all courses within the evening course program of Central Technical School.

An application form was prepared and upon completion by the applicant was submitted, in company with supporting documents of previous educational attainments, to the secretary of the committee (Figure 2). Following the final date for receiving applications the committee reviewed all applications and selected twenty candidates to whom letters of admission were sent. Each accepted applicant was then required to submit the course fee by a stipulated date. Failure to comply precipitated forfeiture of the acceptance and the place in the class was then offered to one of the applicants being

held in reserve. When all twenty students were thus enrolled their names were transmitted to the school authorities who proceeded to develop the class list for use by the course co-ordinator. Receipts for the fees remitted were mailed to the applicants by the secretary.

LECTURE CONTENT

The committee decided, inasmuch as this was a pilot program, that the full complement of lectures be mimeographed, not only to provide each student with a set but in addition to have sufficient copies available to enable any dental society desiring to establish and conduct a similar course to obtain one set to be employed by the society's members as an aid in the development of their own lectures. A limited supply is presently available for the purpose outlined.

Each lecturer was requested to submit his lecture notes to the secretary at least six weeks in advance of his presentation. All, except three, of the original lecture outlines were forwarded to an office assistance organization for stencilling as the time involved in such preparation exceeded that available to a relatively small staff who must maintain the normal functions and responsibilities of their office.

The course co-ordinator assumed the responsibility of having this lecture material available for the class on the appropriate evening and this material was given to the students either just prior to the lecture or immediately upon its termination as desired by the lecturer.

INSTRUCTORS' REQUIREMENTS

Following the acquisition of the willingness of the lecturers to participate in the program it was necessary to obtain their requirements for equipment, materials, and supplies. Each lecturer was specifically requested to make his presentation as practical as his subject material would permit and each was encouraged to

Form 1

APPLICATION FOR REGISTRATION
COURSE IN DENTAL ASSISTING

FULL NAME MRS.
MISS

First NameSecond NameFamily Name
(Please Print)

HOME ADDRESS

City or TownStreet Address or Box No.

TELEPHONE NUMBER

PLACE OF BIRTHDATE OF BIRTH

EDUCATIONAL INSTITUTIONS ATTENDED

1. Elementary Schools:

School, FromTo

School, FromTo

2. Secondary Schools:

School, FromTo

School, FromTo

Have you ever been employed in the capacity of a Dental Assistant?

If "yes" for what period of time?

Give name(s) or Dentists(s) by whom you were employed:

1. Dr. Address

2. Dr. Address

Have you had any business experience?

If "yes" for what period of time?

By whom have you been employed?

Do you type? If "yes" give number of words per minute

Why do you wish to pursue a course in dental assisting?

I accompany my application with certificates attesting to having obtained at least Ontario Grade XI standing or its equivalent.

DateSignature

FIGURE 2 Application form employed in conjunction with the course for dental assistants. The name of the sponsoring society and a return address should appear on this form.

Form 2

REQUEST FORM EQUIPMENT, MATERIALS, SUPPLIES COURSE IN DENTAL ASSISTING

1. I do not require any special equipment, supplies, or materials.

.....
Signature

1. I shall require the following equipment, material or supplies: (Quantity must be estimated on the basis of a class of 20 students. Please be specific with either number, weight, or amount and indicate brand or kind desired)

.....
.....
.....
.....
.....
.....

3. I shall require a 2" x 2" slide projector, pointer and screen.

- ☐ Yes
☐ No

.....
Signature

FIGURE 3 Request form for equipment, material and supplies sent to all lecturers. In addition to a return envelope the name and mailing address of the sponsoring society should appear.

develop projects in which the students could participate. Accordingly a form was sent to each lecturer upon which his various requirements were to be stipulated (Figure 3).

When all replies were received a complete list of supplies and materials was prepared, eliminating, where necessary, duplicate requests. The course co-ordinator, in turn, was responsible to assure that each lecturer, at the time of his lecture, had all his requirements available. The

school provided a cupboard in the classroom for the supplies and small equipment required.

ACQUISITION OF MATERIALS AND SUPPLIES

Following the compilation of the supplies required the lists were put out to tender to four major dental supply houses in the area. Each of the four firms was provided with the names of all companies to whom tenders had been sent. The low-

est tender submitted was accepted and the order was duly placed with the firm submitting it. Appreciation was extended to the three unsuccessful firms, by letter, for their interest in submitting their quotations.

ROYAL COLLEGE OF DENTAL SURGEONS OF ONTARIO
OFFICE OF THE REGISTRAR-SECRETARY

230 St. George St. — Toronto 5

REPORT

Course for Dental Assistants

sponsored by

The Academy of Dentistry, Toronto

in co-operation with

The Royal College of Dental Surgeons of Ontario

Session — 1960-1961

NAME:

ADDRESS:

	Your Score	Average of Class	Highest Score Obtained
THEORY		65.5%	80%
PRACTICAL		B	B+

Honours — 75% on Theory, B on Practical or better
Pass — 60% on Theory, C on Practical — or better
Failure — below either 60% on Theory or C on Practical

COMMENT:

FIGURE 4 Examination report form employed in conjunction with the course for dental assistants. The name of the sponsoring society should appear on this form.

In the main these supplies included such items as bowls, slabs, spatulas, mortars, pestles, dappen dishes, gypsum products, cements, alloy, mercury, radiographic films and impression materials. The full cost of these items was slightly less than \$400. Except for the expendable items this material may be employed in subsequent courses.

EXAMINATIONS

Both practical and theoretical examinations were conducted to ascertain the degree of comprehension and the competence of the students. The mental discipline required to prepare for such examinations is also desirable.

Five practical examinations were conducted at the termination of the lectures and demonstrations in endodontics, gypsum products, impression materials, amalgams, and cements and silicates. The students were graded A-excellent, B-good, C-fair, and D-unsatisfactory.

The theoretical examinations were objective in character. In the main the questions were in four classifications—true or false, yes or no, fill in the blanks, and select the correct answer from four possibilities provided. Each lecturer supplied ten questions and each set of ten questions was categorized under its respective subject title. When all were collected the examination questions were mimeographed. In all, 310 questions were presented and each student could select any five in each category making a total of 155 questions requiring responses. The total obtained was then calculated to the basis of 100 per cent. The passing grade was established at 60 per cent.

In order to be eligible to write the examination the student was required to have an 80 per cent attendance record in the class.

Because of the objective nature of the questions it was not necessary to circulate the completed papers among the thirty-one lecturers for marking as the assessment of the papers was almost a purely

mechanical task. Following the determination of the marks the committee reviewed the results both of the theoretical examinations and the practical tests and recommended the provision of certificates to the successful students.

CERTIFICATE

In addition to a certificate granted by Central Technical School to all who successfully complete one of its evening course programs, a certificate was provided jointly by the Royal College of Dental Surgeons of Ontario and the Academy of Dentistry, Toronto (Figure 4). Should other local societies in Ontario make provision for a similar program approved by the R.C.D.S. board then the certificate granted would be amended to substitute the name of the sponsoring society in place of the Academy of Dentistry, Toronto.

COST OF OPERATION

As the program outlined was a pilot course several costs were incurred which normally need not be assumed by a sponsoring society. The acquisition of a full set of mimeographed lectures entailed an expenditure of several hundred dollars—an expenditure which, without the purpose for which these lectures were prepared, need not be incurred. In addition many supply items of a nonconsumable nature such as slabs, spatulas, bowls and the like, may be used in subsequent years and thus when their cost is entirely chargeable to the first year's program, a somewhat false picture is given.

On the basis of a class of twenty students, each remitting a course fee of \$75, the revenue totalled \$1,500. The major items of expense, exclusive of mimeographed lectures, are shown in Table 2.

With, then, a relatively small degree of financial support from the society for the initial year's program it should be

TABLE 2. Cost of operation.

Item	Cost
Lecturers' Honoraria	\$660.00
Fee to School	200.00
Purchase of Texts	153.00
Equipment and Supplies	400.00
Advertising	45.00
Printing, stationery, postage	75.00
TOTAL	\$1,533.00

possible to conduct such a course on a self-sustaining basis and at the same time assess a very modest fee to the students who enjoy its benefits.

CONCLUSION

In the absence of any formal program at a university level for the training of dental nurses an obligation must be assumed by the profession to provide some facility by which young ladies may acquire at least some theoretical basis for dental assisting. Even when a university program exists the number for whom accommodation is available does not begin to provide sufficient personnel for the needs of the profession.

Evening course programs for dental assistants conducted by dental societies on a broad geographic basis have inherent in them a significant contribution toward the

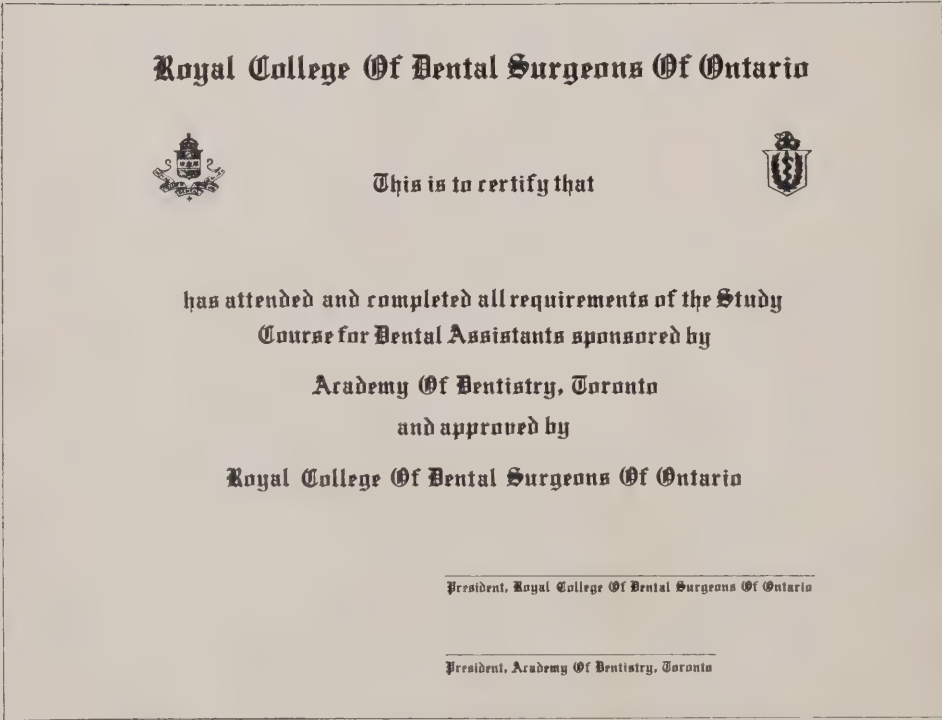


FIGURE 5

Course certificate. The actual certificate measures 7 inches by 9 inches.

welfare of the profession, its auxiliaries, and the public we serve.

RÉSUMÉ

L'auteur donne des détails sur un plan-modèle de cours du soir pour les assistantes élaboré par le Collège Royal des Chirurgiens-Dentistes d'Ontario, en collaboration avec l'Académie de Dentisterie de Toronto.

Ce cours consiste dans une série de conférences traitant de trente-et-un-sujets données les lundis et mercredis soirs de 7.30 hrs à 9.30 hrs, du 1er octobre 1960 au 30 mars 1961. Seules les élèves ayant complété leur neuvième année étaient éligibles

à ces cours. Les honoraires étaient de \$75 et de ce montant \$10 étaient remis à la Commission scolaire qui fournissait les locaux à l'Ecole technique centrale. Chaque conférencier recevait \$15 pour sa soirée. Des examens pratiques et théoriques eurent lieu à la fin du cours. Les candidates ayant subi avec succès les examens ont reçu un certificat. Les revenus de cette première classe de 20 étudiantes se sont chiffrés à \$1,500. Les dépenses d'honoraires pour les conférenciers, le loyer de la Commission scolaire, l'achat de volumes, l'équipement et les fournitures, la réclame, l'impression, le papier à lettre et les frais de poste se sont montés à \$1,533.

230 St. George Street

Complete Denture Procedure — Part 2

C. H. MOSES, D.D.S., M.Sc.D., Toronto, Ontario

THIRD APPOINTMENT

The dentist has received from the laboratory (1) the upper six anterior teeth set on a reinforced baseplate (Figure 1), (2) a plane line articulator on which a gothic arch tracer is mounted on reinforced baseplates (Figure 2), and (3) the original beeswax record which was used for mounting the gothic arch tracing and which is returned so that the dentist may check whether the gothic arch tracing was set at the same vertical dimension indicated by the beeswax record. This is one of the several checks designed to save the

chair-time so often consumed by the necessity of resetting the tracing elements.

The Gothic Arch

Many years ago the gothic arch was demonstrated by Gysi. When the mandible is moved from centric relation to right and again from centric to left, a pathway is developed the shape of an arrow point or a gothic arch. It has been shown that the apex or point of this gothic arch gives the centric relation at a given vertical dimension. If we can obtain the correct vertical dimension and can, on some device, create a gothic arch at that level, we can record centric occlusion ac-

Part 1 of this three-part article was published in the July 1961 issue of the *Journal of the Canadian Dental Association*.

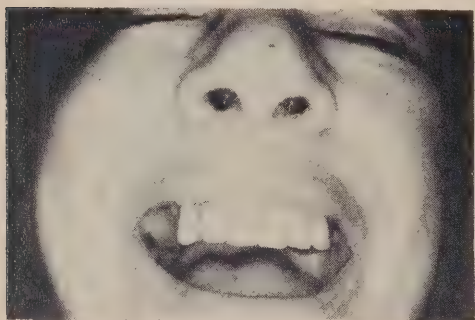


FIGURE 1

curately. This we shall set out to do at this appointment.

Vertical Dimension

"Opening the Bite," or more scientifically, increasing the vertical dimension is probably the greatest cause of denture failure. Because the appearance is generally improved the temptation is to cater to the improved aesthetics. Physiological muscle length, however, is predetermined. Stretched muscles want to return to their normal length like a stretched elastic band. Thereby great pressure is exerted on the ridges with resulting sore spots and resorption.

The gothic arch tracer has been set in the laboratory from the beeswax record approximately at the correct vertical dimension. This must now be verified.

Dots, similar to the ones made for the beeswax record, are made on the face—one on the tip of the nose and the other on the chin. The patient should be relaxed and limp. The word "bite" is not mentioned to the patient nor is he made aware of his jaw position. By merely lifting his arm and training him to let it fall limply, his mandible will automatically assume the rest position. The distance between the two dots is now measured with a pair of dividers. Two and a half millimetres are subtracted, employing a



FIGURE 2

Boley gauge or a ruler. With older people one must subtract more. This creates the inter-occlusal rest space or freeway space, giving an acceptable vertical dimension. The next task is to obtain the occlusion record at this opening, giving centric occlusion.

The Gothic Arch Tracing

The gothic arch tracer consists of a stylus or pin and a platform on which the gothic arch will be traced. If the platform is on the lower jaw the arrow head which is formed will point forward. If the stylus is on the lower jaw and the platform on the upper member, the arrow will point backwards towards the throat (Figure 3).

The heels of the lower baseplate must not be too long and impinge on the upper baseplate thereby preventing free movement (Figure 2). Very often the heels are either left off the lower baseplate or are cut off.

The tracing plate is painted with a special ink for this purpose or is smoked. Smoking is simple but messy. A cotton pellet is saturated in oil of cloves and ignited. This will smoke heavily. The platform portion of the tracer is held over

the burning, smoking pellet until it is black.

The upper and lower members of the tracer are inserted into the mouth and the distance between the dots on the nose and chin are measured with the dividers. The pin or stylus on the tracer is either lengthened or shortened to accommodate the measurements of the dividers. The patient is now ready to record the gothic arch.

He is asked to slide (without opening the mouth, and thereby lifting the pin) to the right and back, then to the left and back. He repeats this several times. The lower baseplate is held down with the fingers to steady it. The registering plate is taken out of the mouth and inspected. If a sharp apex is obtained, the apex registers centric relationship at the desired vertical dimension. If the apex is not sharply defined, the recording procedure is repeated. The patient is requested to make wide circles. This, of course, he cannot do. He must trace a triangular figure, but if he can be induced to move in a wide range the gothic arch will be larger and more discernible.

Sometimes it is impossible to obtain a very sharp apex. This occurs when there is a severe Bennett movement with its lateral side-shift of the mandible. The centric occlusion registration will not be made with pin-point accuracy in these cases but will be close enough to register now and correct later with the Coble balancer.

When the apex is obtained, it is necessary to register this position with the stylus sitting at the apex. With the Mc-Grane tracer (Figure 3) a celluloid or plastic disc with a round hole is supplied. The hole is placed directly over the apex and the plastic disc is locked. The Coble balancer is supplied with plastic discs which are placed on the platform and a hole is drilled with a bur at the apex of the registration. The stylus of the opposing member falls into the hole when the jaw is manoeuvred into centric relationship. When the jaw is thus manipulated



FIGURE 3

and the pin or stylus falls into the hole, the patient is ordered to keep his jaws still and not to open. The patient is warned that this is the desired position which will be registered with soft plaster.

The quick setting plaster is mixed and brought to the chair. The dentist pats the plaster into the space between the upper and lower members and the plaster is permitted to harden in the mouth. This takes about two or three minutes. The registration of centric occlusion at the correct vertical dimension is now complete.

The Face Bow

Most dentists have an aversion for using the face bow. This is difficult to understand. It is a procedure that consumes less than five minutes. The purpose is to locate the hinge of mandibular closure in the same relationship designed to imitate jaw movements, as in the head. The artificial teeth should be in the same relationship to the hinge on the articulator as they will be to the hinge in the head. If the jaws were static without movement such a recording would not be necessary. But the jaw does move. Every opening

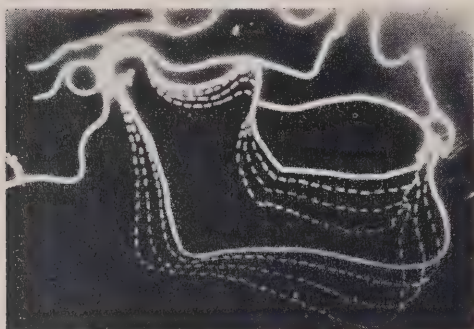


FIGURE 4

and closing is done on a hinge and every time the jaw opens, some point on the jaw moves on an arc (Figure 4). This also affects protrusive and lateral movements. It is therefore desirable to find this hinge and register it. If the hinge is not recorded, the opening and closing arc are not the same on an articulator as in the mouth. If the occlusion is ground on an articulator the error will be exaggerated.

Some dentists make a great effort to locate the hinge axis accurately on an instrument. This is good, but with complete dentures and relatively cusplless teeth the arc need not be reproduced with the pinpoint accuracy necessary for teeth which have sharply defined cusps. The usual method of making a face bow record is satisfactory and consumes only a few minutes.

Face Bow Record

An imaginary line from the tragus of the ear to the corner of the eye is noted. A dot is made on this line about one-quarter inch from the tragus. Usually there is a crease present which is a good landmark.

Ordinary baseplate wax is warmed in water at about 125° F. About two sheets are used in wrapping around the fork of the face bow. The baseplate with the six upper teeth is imbedded in the wax, the

median line on the fork coinciding with the median line on the teeth. The patient's old lower denture is inserted to steady the bitefork. If the patient does not possess an old denture or if his natural teeth are not present, additional baseplate wax is used to steady the bitefork against the edentulous lower ridge. The upper baseplate together with the fork is now inserted into the mouth and the patient is instructed to close firmly.

The face bow is now slid on the fork and the projections on each side are placed on the previously made dots on the face. The calibrations are equalized on each side with the projecting pieces lightly touching the skin. The knob on the face bow is then tightened. The face bow with the fork attached is now withdrawn from the mouth. It contains the upper cast which is ready for mounting on the articulator.

Choice of Articulator

Although our articulators do not duplicate mandibular movements accurately, they come close enough to permit a balanced arrangement of the artificial teeth. Furthermore, there is a later opportunity with the help of the Coble balancer, to correct, in the mouth, inaccuracies caused by the articulator not duplicating mandibular movements correctly. There are some articulators which are very accurate. This discussion is confined to the adjustable articulator usually used for teaching purposes at most universities. The Hanau articulator is employed by the author.

Laboratory Procedure. The laboratory receives (1) the face bow assembly containing the baseplate with the upper six anterior teeth set up and (2) the gothic arch assembly with the upper and lower baseplates held together with plaster. Four "V" shaped notches are now made on each cast (Figure 5). This is done to facilitate removal of the casts before and reseating

them on the articulator after the dentures are processed. This step is necessary for compensation of inaccuracies in the occlusion which are created by the distortion of the acrylic resin during polymerization. It is also possible that one or two teeth may be inadvertently pressed out of position by trial closure of the flasks during processing.

The technician then mounts the upper cast. The cast is placed into the upper baseplate and the calibrated projections on each side are placed on the condyles of the articulator. The projections are so arranged that the calibrations are equal on both sides. The top of the pin on the anterior portion of articulator is now set flush with the top of the upper area and the face bow is lowered or raised until the edges of the incisor teeth are level with the line half-way on the articulator pin at the eye level of the operator. Soft plaster is used to attach the upper cast to the articulator. The baseplate holding the six upper anterior teeth is then removed and laid aside. It will be used as the starting point for setting the remaining teeth.

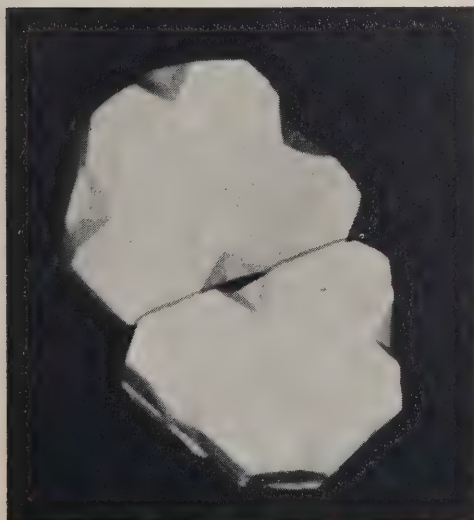


FIGURE 5



FIGURE 6

The gothic arch assembly is now employed to mount the lower cast (Figure 6). The articulator is turned over and the condyles are locked in their most forward position. The gothic arch assembly is placed on the upper cast and the lower cast is placed into the lower baseplate, tacking it with wax if necessary. Soft plaster is used to attach the lower cast to the articulator. The articulator is now set to receive the teeth. The condylar calibration on the articulator is tentatively set at 25 degrees. The articulator calibrations will later be set more accurately when the try-in is ready.

Selection and Arrangement of Posterior Teeth

The selection of posterior teeth is a controversial question and different views are held. The author prefers teeth which are without cusps or are relatively flat for a number of reasons.

While it is true that cusped artificial teeth are slightly more efficient than flat teeth, we can obtain greater efficiency

still by employing teeth with metal cutters such as Hardy posterior teeth, or those with cutters made to measure as advocated by the author, and still use cusplless teeth.

Also we must not forget that we are fighting a losing battle with the ridges. Whenever pressure is applied to bone directly there is a tendency for resorption to occur. Therefore, if there is a loss of bone, the artificial dentures will alter their relationship to one another through settling. The use of well-defined cusps requires accurate procedure. The cusps and sulci must meet exactly and the cusps must co-ordinate with one another or avoid one another when travelling in the prescribed sulci. When dentures settle, the carefully planned articulation is often disturbed. This, in turn, causes pressures in certain areas which become excessive. Excessive loading on a ridge induces trauma and shifting dentures with resulting resorption. A vicious cycle is thus induced. With flat, cusplless teeth, this is lessened considerably.

Balance. Balance is actually not necessary for better chewing. It has been demonstrated that teeth do not meet during chewing. It is only after the food is swallowed and the mouth is empty that teeth meet one another. Experience, however, has shown that teeth which are in balance are tolerated better by patients than when not set in balance. Teeth meet every time we swallow without food being present in the mouth. We frequently rub our teeth together. It is better for the ridges when the load is distributed over greater areas during swallowing and rubbing. It is therefore preferable to balance the dentures.

Arrangement. Patients will sometimes complain that their lower teeth tilt during chewing. The chief cause for this is that the arrangement of the teeth is generally of the usual spherical pattern. This is best illustrated by Monson's theory that



FIGURE 7

the arrangement should be such that if a sphere sat on the mandible all the teeth would touch the sphere at one time. The mandibular molars would have both the buccal and lingual cusps contacting the sphere at the same time. Monson's sphere was eight inches in diameter, which he considered ideal.

This type of arrangement, however, causes the lower denture to tip buccally when a bolus of food is interspersed. The upper denture is seated more firmly. Usually the opposite result is desired.

The author reverses the procedure so that a sphere would fit into the upper denture more readily and the lower denture is more secure during mastication. This rule is not observed with small shallow upper ridges. In such cases the teeth are set on a flat plane or the customary Monson type of arrangement is followed.

By setting the lower teeth in an anti-Monson fashion, except the second molar tooth which is set sloping lingually, we can create a balancing ramp on an adjustable articulator. The teeth are set into balance so that at least three points are contacting in all positions to prevent tipping. Lest the word "natural" is used to argue against the type of arrangements here described, it is pointed out that this arrangement is always found in ancient skulls and in the mouths of aborigines. We therefore arrange our teeth accordingly (Figure 7).

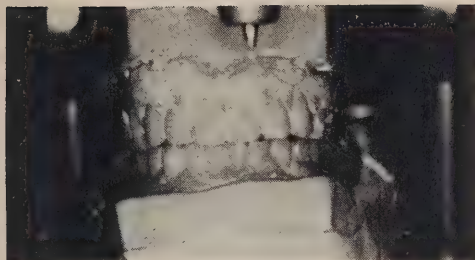


FIGURE 8

FOURTH APPOINTMENT

The articulation of the artificial teeth is now ready for trial in the patient's mouth. It would be better if someone close enough to the patient to criticize or pass judgment is present. A daughter or a husband is desirable. The patient is asked to talk and pronounce a variety of words. The teeth should not clack when the words "six and seven" are pronounced. Also when any word beginning with "F" is sounded the upper incisors should contact the lower lip at the junction of the wet and dry areas.

The lower teeth are checked to determine whether they are in far enough to permit the lower lip to contact the edges of the upper incisors. The patient and relatives are asked to criticize the arrangement of the teeth. The patient is told that they can not be altered later without practically remaking the dentures.

If necessary another appointment is made for resetting the teeth. Also, if necessary, the patient is permitted to take the teeth home in the waxed state so that other members of the family may give an opinion.

Protrusive Registration

About three sheets of Tenax wax are softened and the patient is asked to protrude the lower jaw about 4 or 5 millimetres and close gently into the wax. This is then recorded on the articulator, the condylar calibrations being set.

Laboratory Procedure. The teeth are waxed and contoured in the laboratory. The casts are removed from the articulator. The negatives of the notches remain on the articulator.

The dentures are processed in accordance with accepted procedures and are ready for deflasking. Great care is exercised by the laboratory technician so that the dentures are not removed from the casts. The casts are dug out intact and are remounted on the articulator and fastened with wax (Figure 8). The teeth are now ground wherever discrepancies in the articulation are evident, making certain that the balance which was created in the setup is retained. The dentures are then removed from the casts and polished.

(To be continued)

DENTAL PUBLICATIONS OF CANADA

The Nova Scotia Dental Association News Letter is published at Suite 21, 353 Bayers Road, Halifax, N.S., by the Nova Scotia Dental Association. Dr. J. E. Merritt, 33 Connaught Avenue, Halifax, is the editor. The N.S.D.A. News Letter appears six times a year.

Stimulating the Acceptance of Professional Responsibilities in Clinical Practice

JOHN F. JOHNSTON*, D.D.S., Indianapolis, Indiana

Professional responsibility has many facets. My remarks will be confined to some of those phases which have an ethical connotation. Ethics, in the sense to which I refer, has to do with the recognition of a problem and the suggestion of a solution or method of treatment which will give the patient the longest possible period of comfortable non-destructive service; the will to advise the patient to his advantage, regardless of preconceived ideas of the patient's ability to pay; and the determination to accomplish treatment at the highest level.

If the newly qualified dentist has met the requirements of the undergraduate curriculum, if he has satisfactorily completed the required work units in any clinical field, he will not vacillate in advising his patients regarding the need for treatment, nor will he be at a loss as to how to proceed in the execution of the treatment.

I can speak from experience in the field of restorative dentistry, whether it be operative, crown and bridge, or partial denture procedures, and observation leads me to believe that what I hold to be true in these fields applies to periodontics, paedodontics, complete denture prosthodontics and endodontics.

I have noted that graduates who have done the most work in the field of crown and bridge prosthodontics are the graduates who go into practice and make crown and bridge prosthodontics a major part of

their dental practices. The same can be said of endodontics, periodontics, inlay construction, or amalgam restorations. When a specific area of restorative dentistry becomes a significant part of dental practice, the need for it has been recognized and remedial treatment has been suggested to the patient.

UNDERGRADUATE CLINICAL REQUIREMENTS

Our minimal requirement at Indiana University School of Dentistry is 20 units for crown and bridge work and 4 units for partial denture work. The average number of units completed by our senior students is 26.5 units of crown and bridge work and 5.3 of partial dentures. (A retainer constitutes one unit, a pontic one unit, etc.)

From the standpoint of one who has been practising dentistry for many years, this may seem to be very meagre preparation. However, 26 units of crown and bridge work completed in a school clinic would indicate that, for the most part, the graduate has examined and planned treatment for not less than fifteen patients. 5-plus units of partial dentures represent contact with at least twenty patients.

These cases for examination and treatment are selected for, or by, the students in such a way that broad experience is gained, and so that analysis and treatment planning covers an even wider field. For example, some of these appliances, both fixed and removable, are built in conjunction with the complete denture department. At least 40 per cent have

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* Professor and chairman, Department of Crown and Bridge and Partial Denture Prosthodontics, Indiana University School of Dentistry.

treatment which is integrated with periodontal treatment. Many of the abutment teeth have been treated endodontically and thus the student becomes confronted with this treatment and with the strengths and weaknesses of pulpless teeth.

Within the first three years following graduation, my department can expect to receive letters, telephone calls, or visits from approximately 40 per cent of a class, the purpose of which is to inform us:

1. Of the important place which they have found fixed and removable partial prosthodontics has in the economic phase of practice,

2. That our requirements were sufficient to acquaint them well with a variety of needs which they would be required to fulfil,

3. That such familiarity made them unafraid to undertake the cases presented because where there is knowledge there is neither hesitancy nor fear, and

4. That the concept of what must be done and how it must be done instilled such pride in achievement that the necessity of redoing any operation failing to measure up to a set standard was taken in stride.

Occasionally a student finds it impossible to keep pace with a program which is wittingly designed for the top 60 per cent of any class. As a rule, the laggard has only himself to blame. This may be due to lack of technical skill or to a lack of desire or ability to organize time and to work. Sometimes it is due to plain tough luck; sometimes to unadulterated inertia.

Usually when a student is constantly in trouble, there is a noticeable lack of motivation, not only for the crown and bridge-partial denture field, but also for almost all other phases of clinical dentistry. I personally can see no disgrace for the slow student spending an extra semester, or even an extra year, in preparing himself to practise dentistry so that it will not be at the expense of the general public. Some will disagree with this concept. Others have said that our standards and requirements are too high; that schools

with fewer requirements and lower standards graduate their students, and their students manage to pass the state licensing examinations. Surely a deeper sense of moral accountability must prevail with regard to dental education.

Regulations also help to mould the ethical character of the student. One of our clinical rules deals with the time lapse between appointments. We teach, and attempt to enforce a concept which requires that any bridge or partial denture must be completed within as short a period of time as conditions will permit. When conditions are adverse, an effort is made to rectify them. This thinking should be applied to practice after graduation. Usually only those few students about whom we have a long-standing genuine concern fail to conform cheerfully. Further, the need is stressed for consideration of the patient's other obligations and his convenience in making appointments, as well as the student's responsibility to meet appointments promptly. We insist that the health of the patient's mouth and the patient's comfort be given paramount attention. It is our belief that while the dentist's accommodation and welfare need not be secondary to that of the patient, neither should they be the sole governing factors in the allotment of time and the arrangement of appointments.

DIAGNOSIS AND CONSULTATION

We are frequently asked: "How are patients persuaded to pay for several bridges or partial dentures?" It is true that all patients will neither appreciate nor pay the necessary fee for the replacement of lost teeth by means of the construction of either fixed or removable partial dentures. Equally true is the fact that many would do so if the dentist were willing to take sufficient time to discuss the matter and accentuate its importance.

Dental students seem eager to tell patients about the need for replacements and the advantages to be derived from such restorations. They talk at length

about aesthetics and increased masticating efficiency but they rarely attempt any explanation of the possibilities of preserving supporting structure by the stabilization of the remaining teeth and the elimination of unnatural force directions, leverages, and torques. Usually this advice is only directed toward those whose spaces are of relatively long standing. Such discussion should occur prior to the removal of the tooth.

When suggesting to his patients the desirability and the need for the replacement of a lost tooth, the practising dentist:

1. Should point out how the teeth adjacent to the space will drift, rotate, and incline.

2. How this will affect contact areas and the positions of approximating and opposing teeth.

3. He should explain why such a restoration should be made within a given time limit.

4. He should emphasize the fact that although sound teeth must sometimes be prepared to support the prosthesis, these prepared teeth, competently restored, are resistant to destructive processes and will survive two or three bridges and partial dentures.

Many patients will accept the advice of the dentist concerning the placing of prostheses provided conditions exist which impart confidence in the dentist's knowledge and integrity. Patients must be convinced that the dentist believes in this method of replacement; that he is capable of doing what he proposes; and that he has the energy and time to devote to its successful conclusion. The dentist must be positive and timely—not casual—in his advice.

The justification for conservative case-management should be fully discussed with the patient in terms of operative dentistry, periodontal and endodontic treatment to prevent the loss of teeth; fixed bridges to restore function when one or more teeth are lost; removable partial dentures, for more complex spaces; and the maintenance of oral hygiene by

the patient. Further, the patient should be made aware that fixed bridges are indicated whenever there are properly distributed healthy teeth to serve as the abutments, provided radiographic and clinical examination show a correct crown-root ratio and supporting structure which seems capable of tolerating the additional load.¹ If the area of loss precludes fixed replacements, this should be stated. The indicated mouth preparation must then be described, a statement made of the reason for it and results expected, and a description given of the removable replacement.

The construction of a fixed bridge should be recommended:

1. To the patient who presents with a defective, non-functioning, non-aesthetic bridge,

2. To the patient with a space which has been present for some time, and

3. To the patient who, for one of a variety of reasons, must lose one or more teeth.

The patient with a defective, non-functioning, or non-aesthetic bridge should be told:

1. Why the bridge being worn is defective and what the results may be if the faulty restoration is retained.

2. Why the bridge is non-functioning and what may result from the continued lack of function.

3. Why the bridge is non-aesthetic.

4. How the defects can be corrected and what the patient may expect in service, function, and pleasing appearance from a properly designed and constructed replacement.

When examining the patient with a space which has been present for some time,² presence of the space should be mentioned and permission should be requested to take impressions and face-bow registrations for study models. It is assumed, of course, that full-mouth radiographs have already been made. Study models and radiographic examination may reveal the lack of aesthetics, lack of masticating surfaces, drifting of teeth, loss of relation-

ship with opposing teeth, loss of supporting structure, and the loss of relationship in the same quadrant.³

When discussing these points with the patient, the facts of the case should be stated with conviction, but without dramatics. Reference as to why a bridge was not recommended by a previous dentist should be avoided. Unless a bridge is vitally essential, it is preferable to avoid exerting pressure upon the patient and better to defer discussion until the next periodic examination. However, when one or more teeth are scheduled for extraction, replacement should be discussed at the same time as the removal is advised. At no time should these be dissociated, for the replacement of a tooth can be of greater consequence than saving a tooth.

DETERMINATION OF FEES

Remuneration for professional services should be based on the following factors and, as a rule, in the order given:

1. The risk involved.
2. The basic knowledge and technical skill required.
3. The patient's need for such treatment as well as his ability to compensate above the total cost.
4. Overhead costs.
5. Material costs or laboratory charges.

Setting the fee for any dental prosthesis at three, four, or five times the laboratory charge often results in an imbalance either for the dentist or the patient, and leads to dental merchandising rather than dental treatment. This sort of practice is all too frequent in removable partial denture service. It is unfortunate that dental laboratories are usually underpaid, on a percentage basis, for the part they play in prosthetic services. On the other hand, they can be overpaid for shoddy workmanship, but in such instance only the dentist is at fault for accepting this kind of help. The dentist must clearly indicate what he wants and must provide a written prescription to guide the laboratory

technician; he must accept full responsibility for what is ordered; and he must provide satisfactory impressions or working models which will enable the laboratory technician to accomplish the joint objective.

There does not exist a community in the state of Indiana where crown and bridge prosthodontics is not being practiced with profit to the dentist and pleasure to his patients. Community standards influence fees, to be sure, but it works out that he who believes and asks fairly also receives.

My students are told that two or three patients who have been properly treated will open the doors to many others. It may be mandatory that initially such services be proffered at little or no profit, but since the young dentist with time on his hands cannot really lose much money, however small the fee, fees charged early in practice need have no bearing on remuneration for later treatment.

Lastly, the dentist should be thoroughly familiar with postpayment facilities which may be essential to enable patients to accept the services offered.

RÉSUMÉ

L'auteur décrit comment les exigences imposées aux étudiants dans le service des couronnes et ponts et de prothèse partielle de l'Université d'Indiana sont de nature à leur inculquer l'acceptation totale de leurs responsabilités professionnelles en tant que future praticiens.

Il souligne l'importance d'étudier les cas, non après, mais avant l'extraction des dents. Il condamne la coutume de fixer les honoraires pour la prothèse en multipliant de trois à cinq fois les frais de laboratoire. La rémunération devrait se baser sur les risques que comporte un service donné, sur la somme de connaissance et d'habileté qu'exige le cas, sur les besoins du patient et ses disponibilités financières, sur les frais fixes d'un exercice dentaire et sur le coût du matériel, et sur les frais de laboratoire.

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Complications in the Office Practice of Minor Oral Surgery

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Problems related to the office practice of minor oral surgical procedures may arise from the physical condition of the patient or may be incidental to the surgical procedures being carried out. This discussion presupposes a careful preoperative evaluation of the patient based upon a full analysis of the signs and symptoms, the case history, clinical and radiographic examinations. It goes without saying that no surgical procedure should be attempted without adequate radiographic examination of the entire pathological area, including all borders of cysts and roots of teeth that are to be extracted.

COMPLICATIONS ARISING FROM THE PATIENT'S PHYSICAL CONDITION

Discreet questioning supplemented by routine thorough observation of each patient often reveals the presence of systemic diseases which may affect the nature and course of dental treatment. Consulta-

tion with the patient's physician is helpful in evaluating the patient from the standpoint of dental treatment but the dentist must make the decision on whether or not to institute treatment and he must accept responsibility therefore.

Diabetes Mellitus.—This is a metabolic disease in which the signs and symptoms may be manifest in the oral cavity. Failure to metabolize carbohydrates results in hyperglycaemia and glycosuria. In patients with uncontrolled diabetes the gingival mucosa becomes inflamed and ulcerated. There is also loss of alveolar bone and the teeth become loose. The healing potential is decreased and the risk of infection becomes greater. Antibiotic therapy should be instituted with dental treatment if the local condition warrants it. Otherwise, antibiotics are not routinely used.

Thyroid Disturbances.—In patients with hyperthyroidism there is a danger of precipitating a thyroid crisis. Unless the patient is under control, elective treatment should be postponed. Long, tiring appointments should also be avoided with these patients.

Read at the Annual Winter Clinic of the Academy of Dentistry, Toronto, November 24, 1960.

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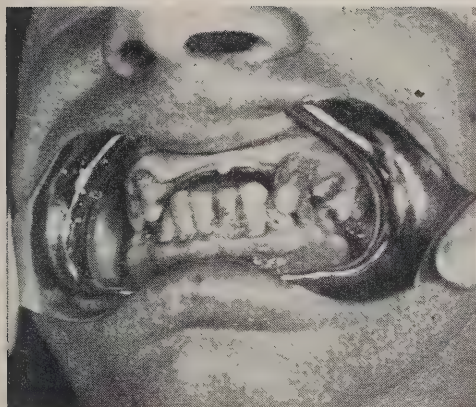


FIGURE 1

Ulceration of the gingival mucosa with loss of alveolar bone in a patient with diabetes mellitus.



FIGURE 2

Typical "club finger" often seen in patients with congenital heart disease or chronic respiratory disease.

Pregnancy.—Most obstetricians agree that pregnancy in a healthy woman is not a contra-indication to dental procedures. However, in order to avoid any criticism it is preferable to defer elective oral surgical procedures until after the termination of pregnancy. If it is necessary to intervene in order to relieve pain or deal with any infection in the course of pregnancy, it is advisable to consult with the patient's physician. This collaboration will be appreciated by the patient.

Radiation Therapy to the Jaw.—In patients undergoing radiation therapy for the treatment of jaw cancer, the sequelae of dental extractions can be just as painful as the cancer itself and may further result in osteo-radionecrosis.

Cardiac Disturbances.—Although one of the commoner disorders encountered in dental patients over the age of 40, congenital heart defects comprise about 5 per cent of all cardiac disturbances. Anaesthetics which deprive the patient of oxygen are contra-indicated in such cases. Rheumatic heart disease is the major cause of

cardiac damage and comprises about 40 per cent of all cardiac disturbances. The extraction or even the manipulation of teeth can cause a transient bacteraemia.

Preoperative and postoperative antibiotic therapy is indicated to avoid the future occurrence of subacute bacterial endocarditis in patients with congenital heart defects and those with rheumatic heart disease. The recommended oral dosage is 500,000 units of a buffered penicillin G or penicillin V, 4.i.d. for one or two days preceding, on the day of, and two days following the operation. Erythromycin, 1 Gm. per day, divided into four doses for the same number of days, may be substituted in patients who are allergic to penicillin.

Cardiac decompensation is manifested by the typically short-winded patient with swelling of the extremities. There is no contra-indication to dental office procedures provided the patient can be compensated therapeutically by his physician. Dental procedures should be of short duration. More extensive treatment should be performed in hospital.

Anginal pain results from a decreased blood flow to a portion or all of the myo-

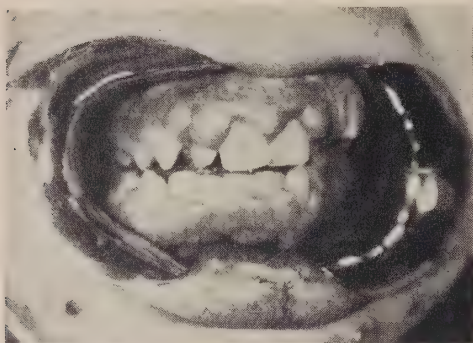


FIGURE 3

Diphenylhydantoin hyperplasia as seen in epileptics.

cardium. It is important to eliminate apprehension on the part of such patients by the use of sedation. Local anaesthesia is also preferable.

Post-coronary patients are also apprehensive and fear another attack. Some authorities believe that the endogenous adrenaline which these patients secrete added to the adrenaline present in some local anaesthetic solutions may precipitate an attack. The writer, however, fears that the transient nature of anaesthesia in the absence of adrenaline can result in the perception of pain. This in itself will do more harm than the very small amount of adrenaline present in most local anaesthetic formulations. The solution to this problem lies in sedation to allay fear and apprehension together with the use of minimal amounts of local anaesthetic solution. General anaesthesia is contra-indicated in post-coronary patients.

Epilepsy.—These patients may present with chipped or broken anterior teeth or with evidence of a benign diphenylhydantoin hyperplasia of the gingival tissues. Questioning should determine whether the patient has taken medication prior to the dental appointment. Barbiturate sedation is recommended prior to extensive or prolonged surgical intervention as a pro-

phylactic measure against an attack. If the patient suffers a seizure, measures must be taken to prevent self-injury and to maintain a patent airway.

Cerebro-vascular Accident.—A stroke is caused by disruption of the vascular supply to the brain. Such an episode can conceivably be precipitated by straining, excitement or emotional upset. Sedation is recommended to allay apprehension in these patients. The amount of surgical procedures to be performed at any one time should be limited. Local anaesthesia is the anaesthesia of choice.

Blood Dyscrasias.—Anaemia, a condition characterized by reduction in the number of red blood corpuscles, must be medically corrected, prior to consideration of surgical intervention.

Polycythaemia, a rare condition characterized by increase in the number of red blood corpuscles, is not a contra-indication to oral surgical procedures provided the condition is under medical control.

Leukaemia is characterized by the presence of an abnormally large number of white blood cells. Surgical intervention definitely presents a hazard to these patients. Extensive surgical treatment should not be considered unless absolutely necessary. If so, the patient should be admitted to hospital. Some of the complications that may follow include excessive haemorrhage, infection and delayed wound healing. Consultation with the patient's physician is advisable even for routine extractions.

Haemophilia-like diseases are hereditary conditions manifesting in males with prolonged clotting and bleeding times. Admission to hospital is necessary because these patients require transfusions of fresh plasma or whole blood.

Purpura is manifested by spontaneous intradermal haemorrhage. Severe bleeding may follow surgical procedures; therefore a medical consultation is necessary.

Respiratory Diseases.—Bronchial asthma is characterized by paroxysmal episodes of dyspnoea. The condition is basically an allergy. Elective oral surgery should not be considered during a period when the symptoms of the disease are present. Caution must be exercised in the selection of drugs such as penicillin. Barbiturate premedication is recommended. Broncho-spasm may be treated by means of aminophylline, 7½-15 gr. I.V. or adrenaline 1:1000, ½ cc. I.M. or subcutaneously.

Geriatric Considerations.—The increase in life span makes it necessary that dentists familiarize themselves with the problems of older patients. Important principles are simplicity, gentleness and rapidity of treatment. Whenever possible the oral wound should be closed with sutures. Atrophy of the salivary glands decreases the flow of saliva, the normal cleansing agent of oral wounds. The aged patient is often less susceptible to pain and on this premise we should be more conservative in our use of anaesthetic drugs. Due to the risk of malnutrition, the geriatric patient should be offered oral surgical care which will enhance his ability to ingest and masticate food.

Steroid Withdrawal Syndrome.—Any patient who gives a history of having received adreno-cortico steroid therapy should be considered as a possible subject for adreno-corticoid insufficiency following surgical treatment. Medical consultation is recommended. The usual signs of adreno-corticoid insufficiency are falling blood pressure, rising pulse rate and mental confusion.

Renal Disease.—Kidney ailments are not a contra-indication to local or general anaesthesia except in severely debilitated patients.

Hepatic Disease.—The liver is the site of breakdown of most of the parenteral anaesthetic drugs. When damaged, the

liver cannot detoxify them quickly. In alcoholics, for example, there may be a prolonged recovery period following the use of barbiturates for general anaesthesia. Local anaesthesia is the method of choice in patients who have had jaundice or infectious hepatitis.

COMPLICATIONS INCIDENTAL TO SURGICAL INTERVENTION

Preoperative Evaluation.—Correct interpretation of radiographs and evaluation of root morphology are important safeguards against the hazard of root fracture. Careful attention should be given to roots in close proximity to the maxillary antrum, the inferior dental canal and the maxillary tuberosity. Bone density should be evaluated both clinically and radiographically. Consideration must be given to the degree of caries involvement of the crowns of teeth. It is worth advising the patient that a tooth will be removed in sections if tooth fracture is anticipated. Then the patient is not surprised if the tooth breaks, and a relaxed patient confident in the dentist's good judgement facilitates the operation. Care should be exercised to avoid damage to restorations in adjacent teeth from the injudicious use of elevators or forceps. Well-worn teeth are often very difficult to extract. In such cases the supporting bone should be examined for presence of a heavy alveolar plate.

Fractured Root Removal.—Roots fractured close to the apex are generally the most difficult to remove. In two or three rooted teeth that are fractured close to the cervix it is usually possible to separate the parts easily and remove them with elevators. Sharp elevators used with a minimal amount of force will prevent the occurrence of any accidents. The fundamental requirements for surgical removal are (1) good light, (2) good suction, (3) adequate exposure of the area in question by means of a properly de-

signed surgical flap, (4) sharp elevators, scalpels and chisels, and (5) adequate removal of cortical and interseptal bone.

To remove small apices it is necessary to remove sufficient buccal alveolar plate so as to permit the removal of the root tip by means of a fine elevator. This buccal plate may be removed in several different ways, by means of (1) rongeurs, (2) hand chisel or gouge, (3) a No. 8 round carbide bur under continuously flowing sterile saline, or (4) high-speed instruments. Although the writer has employed high-speed instruments, he has found that he could deliver impacted teeth with greater dispatch using a carbide bur in a conventional handpiece. This method was also a good deal more aseptic due to the experimental nature of sterilizing methods for high-speed hand pieces and tubing. However, future refinement in sterilizing technique may render the air driven handpiece of considerable value in surgical procedures on hard tissues.

Antrum Involvement.—Occasionally, the antrum is inadvertently opened in the course of tooth removal. Treatment is relatively simple provided no tooth material has been displaced into the antrum.

1. Carefully debride the socket.

2. Smooth and round the lateral cortical margins with rongeurs and files. This will accelerate healing.



FIGURE 4

Flap design for recovery of tooth material from the antrum (Caldwell-Luc operation).

3. Close the soft tissue, avoiding tension. If necessary undermine the tissue on the buccal surface of the alveolus, thus preventing suture tension.

4. The writer does not employ material that supposedly assists in the formation of a clot. It is his feeling that if a clot fails to form, it would have failed anyway.

5. Proper instruction to the patient is the most important aspect of the whole procedure. Every aspect of the treatment should be carefully explained and the patient should be cautioned not to smoke or expectorate for twelve hours. Caution should also be exercised with respect to blowing the nose and coughing. This increases the inter-antral pressure and tends to dislodge the clot. The use of nose drops containing tetrahydrozoline hydrochloride* is helpful. Three drops are administered while the patient lies on the affected side and remains that way for one minute. This assures the migration of the nose drops to the area of the natural opening of the antrum.

6. In the case of pre-existing antral infection, antibiotic therapy is instituted.

Recovery of Roots from the Antrum.—The commonest error in the recovery of roots from the antrum is to enlarge the socket. This will potentiate the possibility of an oro-antral fistula and will accomplish little to aid the root tip recovery. If the root tip can still be observed in the socket it may be removed with a fine, sharp elevator. If it is displaced into the antrum, the dentist should proceed no further but should arrange with an oral surgeon for a Caldwell-Luc procedure for the recovery of the material from the antrum.

Fracture of the Buccal and Labial Plates.—This may usually be predicted, particularly in the presence of a dense layer of bone around the cervix of a tooth. This problem may be avoided by

* The author uses *Tyzine*, 0.1%, Chas. Pfizer & Co. Inc.

means of a controlled sacrifice of buccal and labial bone which prevents pieces from breaking away during tooth removal.

Fracture of the Tuberosity.—This accident can be minimized by preoperative evaluation of the radiographs. If a large antrum is in evidence a flap should be reflected on the buccal plate and some of the buccal plate removed. If the remainder of the buccal plate fractures and is delivered with the tooth, the area is tightly closed by means of sutures. The same postoperative instructions are given to the patient as in the case of antrum involvement.

Haemorrhage.—Control of haemorrhage is one of the commonest problems confronting the dentist. Most dental bleeding problems are local in nature, not systemic. Therefore the dentist should first reassure the patient, as well as any anxious relatives as to the satisfactory outcome. The patient's face, mouth and hands are cleansed, if this is necessary. Some local anaesthetic is injected into the area of haemorrhage. After cleaning the wound, it is necessary to determine whether the bleeding is arterial, venous or capillary in origin, and whether it is associated with soft tissue seepage or sharp bony spicules. The wound is palpated to determine the presence of sharp edges or bony spicules. These are eliminated. The wound is sutured tightly, with or without oxidised cellulose, and pressure is maintained by the dentist for five minutes. This is preferable to relying on the patient to bite firmly on gauze because in his condition he is unlikely to maintain maximum pressure for any length of time. A sedative is administered and the patient is sent home with instructions to bite firmly on a piece of gauze and to remain in a sitting position for several hours. This reduces the likelihood of recurrence of the haemorrhage.

Secondary haemorrhage occurring three or four days after the operation is usually associated with infection. In that event

it is necessary to supplement the foregoing procedures by means of antibiotic therapy.

Postoperative Infection.—It is necessary to differentiate between postoperative infection and oedema or haematoma on the basis of a general physical evaluation (fever, toxæmia, etc.). The recommended method of treatment includes (1) a soft diet, (2) plenty of fluids, (3) bed rest, (4) chemotherapy, and (5) saline mouth irrigation. The choice of drugs is important. Acetylsalicylic acid compounds with phenacetin, caffeine citrate and codeine phosphate, $\frac{1}{2}$ gr. are effective in reducing fever and eliminating the pain. Infections of dental origin can be serious and knowledge of their extension through the fascial spaces as well as the venous drainage of the head and neck is essential to the prevention of sequelae such as Ludwig's Angina or cavernous sinus thrombosis.

Occasionally it is advisable to incise an abscess extra-orally. If the mass is fluctuant, there is the possibility that it may rupture spontaneously extra-orally. To avoid this eventuality, the area of greatest fluctuation is selected, an incision is made at the lowest level and a rubber drain inserted. This can be done in the office or in the hospital depending on the general condition of the patient. Basically the same principles and management apply to extra-oral incision and drainage as to postoperative infection in general.

Dry Socket.—Symptoms of dry socket usually begin on the third day following the operation with a dull ache. There is exposure of bone and a foetid odour. The treatment consists of (1) syringing the socket with saline to cleanse it of all debris, (2) removing any loose clots by means of irrigation or suction (the socket is never curetted, thus reducing the likelihood of osteomyelitis), (3) applying a eugenol base dressing on gauze, and (4) changing the dressing daily. It may be more convenient to supply the patient with some medicated dressings, have him

purchase an Asepto No. 2045 glass syringe from a pharmacist, and instruct him in the technique of irrigating the socket and changing the dressings for himself. Antibiotic therapy is only instituted in the presence of lymph node involvement.

Postoperative Pain.—Continuous pain for more than twenty-four hours without diminishing intensity warrants investigation. The dentist should look for a fractured buccal plate, the presence of a foreign body such as an amalgam fragment, a fractured lingual plate or fractured interseptal bone that has become wedged. The patient should never receive more than six doses of a narcotic prescription. If pain persists, the site of operation should be checked for complications. Delayed pain and swelling frequently follow the removal of impacted third molars. The swelling is located in the muco-buccal fold area, sometimes involving the masseter space. The pain is mild, the breath is often very bad and there is a bad taste in the mouth. A small bone fragment under the periosteum is the most frequent aetiological agent.

It should be remembered that preoperative and postoperative sedation by means of barbiturates, if given in the presence of pain, often potentiates and accentuates the pain.

Penicillin Complications.—A patient should always be questioned to determine whether he has had any previous reaction to penicillin. Even a minor reaction will rule out the use of this drug. It is also necessary to determine the existence of a history of hay fever or asthma since patients with either of these conditions are more likely to be allergic to penicillin. Penicillin allergy is manifested by itching hives, oedema, bronchospasm and anaphylactic shock. The treatment consists of: (1) The administration of oxygen under pressure. If laryngospasm develops it may be necessary to intubate the patient in order to provide a patent airway. (2) The administration of adrenaline

1:1000, $\frac{1}{2}$ cc. subcutaneously, or hydrocortisone,* 100 mg. I.V.

CONCLUSIONS

The foregoing paper constitutes a list of fundamental and basic principles. The dentist who observes these principles can avoid and extricate himself from most oral surgical problems.

RÉSUMÉ

Les problèmes qui découlent de l'exercice de la chirurgie mineure dans le cabinet dentaire sont de deux ordres: (1) l'état de santé physique du patient; (2) les accidents qui surviennent de l'acte opératoire lui-même.

Il faut avoir, avant d'entreprendre une intervention chirurgicale, une bonne radiographie de toute la région où se situe une pathologie quelconque.

On questionne discrètement le patient et on examine son aspect extérieur; on décèle ainsi souvent une maladie constitutionnelle susceptible d'influencer la nature et le genre de traitement qu'on se propose de faire. Il est utile de consulter le médecin du patient pour connaître ses dispositions à une intervention, mais il appartient au dentiste seul de juger s'il doit ou non prodiguer le traitement.

L'auteur expose les manifestations et les complications chirurgicales associées au diabète mellitus, aux déficiences thyroïdiennes, aux grossesses, à la radiothérapie des maxillaires, aux troubles cardiaques, à l'épilepsie, aux accidents cérébro-vasculaires, aux dyscrasies sanguines, aux maladies du système respiratoire, à la vieillesse, aux syndrômes de l'arrêt des stéroïdes, aux pathologies rénales et hépatiques.

Il traite de l'extraction des racines fracturées, des complications sinusales, des fractures des tubérosités, de traitement des hémorragies, de l'infection post-opératoire, des alvéolites, de la douleur post-opératoire et des complications qu'amène l'emploi de la pénicilline.

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* The author uses Solu-Cortef, Upjohn.

EDITORIALS

Focus on British Columbia

When special licenses provided under regulations of the British Columbia Dental Technicians Act were recently invalidated by the Supreme Court of British Columbia, some dentists assumed that this action stemmed from sympathy with viewpoints expressed by the dental profession and consequently restored the status quo which existed up to 1958. This is not so.

It will be recalled that the Dental Technicians Act of that year provided for a board with power to draft regulations which were approved in 1960. Division 10 of these regulations provided for issuance of special licenses only to those technicians who could demonstrate a minimum of 12 years' experience as dental technicians and who had spent the previous seven years in an establishment dealing with the public in British Columbia. The special licenses permitted these technicians to continue making dentures for the public, an activity which had been illegal previously.

Careful examination of the judgement delivered by Mr. Justice McInnes reveals an interpretation which is substantially divorced from the profession's position in the matter. According to the judgement,

the intent of the legislature had been that dental technicians, present and future, with the necessary qualifications should be entitled to deal directly with the public in the one special branch of dentistry. Division 10 of the regulations, however, only provided for the issuance of special licenses to a particular group of technicians. This was held to be discriminatory, contrary to the purview of the Dental Technicians Act and as depriving the public in the future of its right to receive these services after the present special licenses have ceased to exist. The logical conclusion is that Division 10 regulations were considered to be too restrictive and therefore contrary to public policy in British Columbia.

Although the court's action temporarily restores the pre-existing status quo, it is quite obvious that the matter will not rest as at present. From informed sources has come word that the provincial government plans further action, possibly at a fall session of the legislature. What that action will be remains to be seen. Meanwhile the profession has not been idle. At a meeting of the secretaries and presidents of C.D.A. corporate members from the four western provinces in Saskatoon

prior to the Board of Governor's meeting, British Columbia representatives submitted proposals for a new type of dental auxiliary representing an extension of the present duties of the dental hygienist into the areas of prosthetic and preventive dentistry. The purpose of the meeting was to seek the views of officials from neighbouring western provinces and to harmonize the proposals with the established policy statements of the Canadian Dental Association on "Auxiliary Personnel" and "Projection of Dental Services in Canada." Subsequently these proposals were discussed at the Board of Governors' meeting where a resolution was adopted encourag-

ing representatives from the four western provinces and the Council on Education to pursue study of the training of such auxiliaries.

It is therefore possible that the profession may have concrete proposals to present to the government of British Columbia if and when a further session of the legislature is held in that province. Meanwhile dentists everywhere in Canada will await these proposals as well as subsequent developments with interest and anticipation.

The immediate focus of attention has shifted to our Pacific province, British Columbia.

Alternatives to Water Fluoridation

Tardiness in making the proven benefits of water fluoridation available on a community-wide basis is causing the public to explore alternative sources of fluoride as a means of protection against dental caries. Physicians and dentists are receiving more and more enquiries from parents who do not have access to drinking water with an optimum level of fluoride but who wish to provide the dental benefits of fluoride for their children. Among the alternatives, consideration has been given to topical application of fluoride solutions to the teeth, fluoride dentifrices, home fluoridation units, fluoridated milk or salt, and dietary fluoride supplements as tablets or concentrated fluoride solutions. The present status of these various alternatives is described in the following paragraphs.

Topical application of fluoride solutions has attracted the attention of public health authorities in communities not yet fluoridating their water supply and, in a more

limited way, in those communities already supplementing the fluoride content of their water. Solutions of sodium fluoride and stannous fluoride have been most frequently used.

The best results with sodium fluoride are attained with multiple applications (four sets of four applications at ages 3, 7, 10 and 13) of a two per cent solution. Reductions ranging from twenty to forty per cent in the incidence of fresh tooth decay are achieved but the effect is not maintained if the applications are permitted to lapse. The procedure is relatively time-consuming and at least eleven times as costly as water fluoridation, assuming that a dental hygienist does the application. The procedure is also far less effective than water fluoridation. The net result has been to discourage widespread acceptance by private dentists and public health departments.

Stannous fluoride appears to be more efficient than sodium fluoride. Single an-

nual applications of an eight per cent solution of stannous fluoride have compared favourably with multiple applications of sodium fluoride. Single six-monthly applications are reported to be more effective, and a recent report relating to a single annual application of a ten per cent solution to the teeth of young adults under rubber dam isolation suggests even greater potential benefits.¹ Available evidence also suggests that topically applied stannous fluoride enhances the benefits of water fluoridation. The protective benefit is primarily exerted on smooth surfaces of teeth, particularly the proximal surfaces. The attraction of stannous fluoride stems from ability to schedule applications on a yearly or six-monthly basis compatible with patient recall systems which many general practitioners and health department dental clinics observe. Nevertheless, when considering large numbers of children, this procedure also makes relatively heavy demands on available personnel time and proves to be nearly as costly as topical sodium fluoride applications.

Tests with a commercial dentifrice containing stannous fluoride have yielded limited evidence of usefulness and safety in the control of dental caries. The available information is consistent in showing a decrease in new tooth decay over a three-year period, but further information is desirable regarding the effectiveness of such a dentifrice beyond three years, its effectiveness in older adult age groups, and its effectiveness in children living in an area with fluoridated water.

The prohibitive cost of home fluoridation units means that these are not available to the vast majority of people with the greatest need for an effective dental decay control measure. Furthermore, evidence as to the constancy of the amount of fluoride delivered by such apparatus is scanty.

There is as yet no reliable evidence regarding the effectiveness of fluoridated milk or salt for the control of tooth decay. Even if they were effective, problems of

standardization would be multiplied with the need for control at each dairy or salt refinery. There would be the further problem of preventing distribution to areas with fluoridated water. Moreover, breast-fed infants and infants fed on evaporated milk or powdered milk formulae would be deprived of fluoride unless fluoridated evaporated milk were made available.

The value of adding fluoride to the diet in the form of tablets or solutions in the home as a method of partially preventing dental decay, has not been adequately established. Since these methods of administering fluoride differ considerably from that of communal water fluoridation, it cannot be assumed that they necessarily carry the same health benefits. Moreover, certain hazards are associated with self-administration of fluorides that do not occur with water fluoridation. For example, the presence of fluoride tablets or concentrated fluoride solutions in the home constitutes a potential danger from acute poisoning (as with many other pharmaceutical agents). In the view of the Council on Research, the use of tablets or solutions should only be authorized on the prescription of a qualified dentist or physician, only after the fluoride content of the home water supply has been ascertained, and only where continuous parental supervision can be assured over a period of many years. The use of fluoride tablets or concentrated fluoride solutions, while worthy of further investigation, cannot at present be considered a substitute for communal water fluoridation, which has been established as a controllable, safe, effective and inexpensive health measure for controlling dental decay.

From the standpoint of cost, effectiveness and convenience, fluoridation of community water supplies remains by far the most desirable method for the control of dental caries. Topical application of a stannous fluoride solution is a useful alternative or supplement to water fluoridation.

dation. Recently, a commercial stannous fluoride dentifrice has also demonstrated limited evidence of usefulness in the control of dental caries.

REFERENCE

1. Protheroe, D. H. A Study to Determine the Effect of Topical Application of Stannous Fluoride on Dental Caries in Young Adults—Preliminary Report. R.C.D.C. Quarterly 1 (No. 4):18, January 1961.

BOOK REVIEWS

Textbook of Pathology

Prepared by: William Boyd

Published by: The Macmillan Co. of Canada Ltd., Toronto for Lea and Febiger, Philadelphia, 1961. Ed. 7.

Pages: 1370. Illustrated. Price: \$18.00

The title of this book is not new, but the contents are. In this seventh edition of his popular *Textbook of Pathology*. Dr. Boyd presents the reader with what amounts to a rewrite of the whole book and not just a revision of the previous text. The entire book has been reset in the currently popular double column format and, a very useful feature has been added at the beginning of each chapter in the form of a tabulated outline of the chapter contents.

With this new edition several entirely new chapters have been added in the fields of immunity, hypersensitivity, body fluids, pigmentations, ionizing radiation and genetics. These are warranted because of the great advances that have been made in them in recent years. The final chapter in the book is devoted to dental pathology and has been largely rewritten. It is not intended for dental students, but rather is directed towards the general practitioner of medicine, who will find an outline of the commoner, purely dental lesions that may be encountered in a medical practice.

The author has indicated his philosophy of approach to the teaching of pathology to consist of three phases: "the study of (1) structural changes, (2) disturbances of function, and (3) the relation of the lesions to the symptoms which represent disease in the patient." The third phase has received greater emphasis which points up the importance of having a working knowledge of pathology when making a diagnosis.

This *Textbook of Pathology* together with the author's *Pathology for the Physician* and *Pathology for the Surgeon* form a trilogy of pathology that provides a very extensive coverage of the whole subject.

H. A. Hunter

Year Book of Dentistry, 1960-1961 Series

Prepared by: S. D. Tylman, D. A. Keys, J. W. Knutson, H. J. Noyes, H. B. G. Robinson and C. W. Waldron

Published by: Year Book Medical Publishers Inc., Chicago, 1961.

Pages: 480. Illustrated. Price: \$7.50

The editors listed above are themselves well known and respected authorities in their respective fields.

In the 1960-61 Year Book Series the very latest information is brought together in very concise form. This I am sure is greatly appreciated by the busy practitioner of dentistry today.

The choice of subject material is probably of the most practical value to the general practitioner of dentistry. It does, however, give a very complete coverage of new knowledge in specialized fields. A review of section headings should convince the reader, that this annual compendium of dental knowledge will serve that important professional requirement of continuing education.

The 1960-61 Series covers, diagnosis, endodontics, periodontics and oral medicine, caries and hard tissue lesions, public health, orthodontics, surgery and related pathology, restorative and prosthetic dentistry.

Following many of the abstracted articles, the editors have made their own comment on the material in the original article. This comment may often "whet the appetite" of the reader to obtain the original article. This is good!

Glenn T. Mitton.

Wrought Wire Technique for Partial Dentures

Prepared by: Rudolph Scheu (Translated by Allan Warr)

Published by: The Macmillan Co. of Canada for John Wright & Sons Ltd., Bristol, 1960. Ed. 9.

Pages: 108. Illustrated. Price: \$3.85

This book is essentially a manual for the construction of wrought wire clasps by the dental technician, but may serve as a reference in the teaching of undergraduates as well as for the dental practitioner.

Included in this text is a short chapter on the principles of construction for partial dentures; other chapters deal with clasp forms, laboratory technique and practical examples of the use of wrought clasps for the retention of partial dentures and the preservation of the natural structures.

This reviewer agrees with the author that designs for partial dentures should be kept as simple as possible and lateral forces must be transmitted to as many standing teeth as possible to prevent damage.

No mention is made of surveyor technique although reference is made to survey lines by free-hand in relation to clasp retention. It should always be remembered that it is not the grip of the clasp on the retainer teeth which provides retention but the placing of the retentive arms into areas of predetermined retention.

The author employs stainless steel material and he has developed what he calls a Scheu anchor with a ball contact on the tooth surface. He develops various clasp forms from preformed patterns some of which are similar to those of Roach type clasps.

He suggests band and palatal design mostly of plastic material, in some cases reinforced with bars. The clasps have a lug or connection which engages in the plastic denture material.

The author states that cast clasps do not give or retain the resiliency that is necessary for preserving the stability of natural teeth and condemns their use for this reason. It is generally believed, however, that if cases are properly diagnosed and dentures scientifically designed, cast clasps should not

endanger the anchor teeth.

This reviewer's first recollection of the round wire clasp described by J. Wright Beach of Buffalo was in 1913. W. E. Cummer of Toronto wrote an excellent bulletin on the method of constructing round wire clasps devised by George L. Roth of the J. M. Ney Co., in about 1912. Applegate of the University of Michigan recommends wrought round wire clasp arms for some cases.

R. J. Godfrey

Oral Physiology.

Prepared by: Sidney I. Silverman.

Published by: The C. V. Mosby Co., St. Louis, 1961.

Pages: 533. Illustrated. Price: \$15.00.

The necessity to integrate more intensively the instructions in the biological sciences with clinical practice is becoming increasingly recognized. How best to proceed with this objective, however, is still a problem. Clinical procedures developed empirically will increasingly be modified as we apply advances in knowledge of the processes and mechanisms by which the oral structures maintain their integrity and efficiently perform their functions.

Obviously, the busy clinician cannot be expected to keep abreast of the advances in the biological sciences. However, sufficient knowledge of these sciences to understand the biological principles underlying the modifications in clinical procedure seems desirable. On the other hand, the biologist cannot be expected to develop and maintain sufficient clinical knowledge, experience and judgement to modify and develop therapeutic procedures. Individuals conversant with both the biological and clinical fields must be trained to bridge the gap between the research worker and the clinician. Dr. Silverman appears to be such an individual. In his new book, *Oral Physiology*, he seeks to weave scientific data and theory with clinical experience and judgement.

For the undergraduate and postgraduate student the book should reduce the barriers between their clinical and basic biological training. In the past decade biological research in dental tissues has been rapidly increasing. This new knowledge must be brought together, integrated and classified for ready reference. Dr. Silverman has attempted to do this and offers the clinician such a reference. This reviewer has enjoyed *Oral Physiology* and fully expects this book to be helpful in his research, teaching and practice.

W. J. Linghorne

CORRESPONDENCE

The Journal devotes this section to comments by readers on topics of current interest to dentistry. The editor reserves the right to edit all communications to fit available space and requires that all letters be signed. Printed communications do not necessarily reflect the opinion or official policy of the Canadian Dental Association. Your participation in this section is invited.

RESULTS OF RADIATION MONITORING IN KINGSTON

Readers of the Journal may be interested in the following preliminary results of a radiation monitoring survey conducted in twenty-two dental practices in Kingston, Ontario, at a time when the writer was associated with the health department of that city.

All readings are in milliroentgens. Readings of -5 indicate less than five milliroentgens. Dentists were numbered 1 to 22 and dental nurses 1A to 22A. The x-ray monitoring films were supplied by, and read by, the Radiation Protection Division of the Canadian Department of National Health and Welfare.

The maximum permissible dose of radiation is now set by the International Com-

mission on Radiation Protection at 5,000 milliroentgens in one year (420 milliroentgens per month). It is to be noted that none of the dentists or dental nurses reached or approached this level. In many hospital radiology departments the technicians are required to receive not more than 50 milliroentgens per week or approximately 200 milliroentgens per month.

This test was purposely conducted so that the subjects proceeded according to their usual routine. There were no details recorded as to the positions of the subjects while the x-ray equipment was in use, the type and age of the units, the protective filters, if any, used, or the total exposure in milliampere seconds at a given kilovoltage received by the dentists and their assistants.

It is through the co-operation of S. K. Ghosh Ph.D., physicist, Radiation Protection Division of the Department of National Health and Welfare that it has been possible to submit this report.

R. E. Feasby, D.D.S., D.D.P.H.,
Assistant Director of Dental Services,
Department of Public Health,
465 Bay Street,
Toronto 2, Ontario

TABLE 1 Radiation received during the operation of dental X-ray equipment by twenty-two dentists and their assistants over a three-month period.

Subject	— 1960 —			Subject	— 1960 —		
	October	November	December		October	November	December
1	9mr.	13mr.	11mr.	11A.	-5	-5	-5
1A.	-5	5	-5	12	45	8	-5
2	-5	13	5	12A.	-5	-5	-5
2A.	-5	-5	-5	13	-5	-5	-5
3	-5	6	-5	13A.	-5	6	-5
3A.	-5	-5	5	14	-5	44	19
4	-5	5	5	15	-5	-5	-5
4A.	-5	-5	5	15A.	-5	-5	-5
5	-5	25	8	16	-5	7	-5
5A.	-5	8	-5	16A.	-5	-5	5
6	-5	-5	-5	17	-5	-5	-5
6A.	-5	-5	-5	18	-5	42	35
7	-5	64	38	18A.	-5	5	-5
7A.	-5	5	5	19	-5	30	19
8	-5	-5	-5	19A.	-5	5	-5
8A.	-5	-5	-5	20	-5	-5	-5
9	-5	-5	-5	20A.	-5	-5	-5
9A.	-5	-5	-5	21	-5	-5	-5
10	5	140	35	21A.	-5	-5	-5
10A.	-5	-5	-5	22	70	50	Film lost
11	-5	-5	-5	22A.	-5	-5	-5

DENTISTRY IN THE NEWS

Canada and the Provinces

MEMBERSHIP AND TASKS OF ROYAL COMMISSION ON HEALTH SERVICES ANNOUNCED

Dr. C. L. Strachan, a practising dentist in London, has been appointed to the Royal Commission charged with suggesting measures to "ensure the best possible health care is available to all Canadians". Dr. Strachan is a former member of the Executive of the Canadian Dental Association and a past president of the Ontario Dental Association. The terms of reference were revealed by Prime Minister Diefenbaker on June 20 in announcing the makeup of the Royal Commission on Health Services headed by Chief Justice Emmett Hall of Saskatchewan.

Other members of the Commission are Dr. D. M. Baltzan, chief of staff and chief of the Department of Medicine, St. Paul's Hospital, Saskatoon, and a member of the Central Health Services Committee of Saskatchewan; O. J. Firestone, professor of Economics at the University of Ottawa, and former economic adviser to the Department of Trade and Commerce; Alice M. Girard, director of Nursing and assistant administrator of St. Luke's Hospital, Montreal; M. Wallace McCutcheon, vice-president and managing director of Argus Corporation Ltd., Toronto; and Dr. A. F. Van Wart of Fredericton, a practising physician and a past president of the Canadian Medical Association.

In an accompanying announcement, Mr. Diefenbaker outlined the task of the Royal Commission: To make a comprehensive and independent study of the existing facilities and the future need for health services for the people of Canada and the resources to provide such services, and to recommend such measures, consistent with the constitutional division of legislative powers in Canada, as the commissioners believe will ensure that the best possible health care is available to all Canadians.

The terms of reference single out other specific areas for attention:

—The existing facilities and methods for providing personal health services including

C. L. STRACHAN



Credit:
Barrett, London

prevention, diagnosis, treatment and rehabilitation.

—Methods of improving such existing health services.

—The present and future requirements of personnel to provide health services.

—Methods of providing adequate personnel with the best possible training and qualifications for such services.

—The present physical facilities and the future requirements for the provision of adequate health services.

—The estimated cost of health services now being rendered Canadians, with projected costs of any changes that may be recommended for the extension of existing programs or for any new programs suggested.

—The method of financing health care services as presently sponsored by management, labour, professional associations, insurance companies or in any other manner.

—The methods of financing any new or extended programs which may be recommended.

—The relationship of existing and any recommended health care program with medical research and the means of encouraging a high rate of scientific development in the field of medicine in Canada.

—The feasibility and desirability of priorities in the development of health care services.

The Commission has been asked to recommend whether any new or improved plan could be integrated with existing services to provide a national health service program for Canada.

One of the important terms of reference relates to the study of the problem of cor-

relating existing health services into one broad general program. This raises the question of the future of the Saskatchewan government's plan for its own provincial health scheme which may be implemented this fall. There is also the question of the existing private health plans, to which companies and private individuals subscribe.

PREPAID DENTAL CARE WELCOMED

A recent editorial in the Peterborough, Ontario, *Examiner* comments as follows:

The interest by the Canadian dental profession in a scheme which will provide for the prepayment of dental care is a welcome one. The bad condition of teeth in Canadian youth is undoubtedly as much due to lack of care as it is to lack of fluorides. Dr. William McIntosh of Toronto goes so far as to say that an insurance scheme is inevitable in view of the trends in many major western countries today. He told the Ontario Dental Association that . . . it should keep pace with changes in social and economic thinking.

Dentists, in fact face the same dilemma as doctors. The medical profession has been faced for some time with a growing demand for a medical insurance scheme operated by the state. The Liberal Party is committed to a widespread study of the possibilities and the New Party has virtually undertaken to bring one about. In the past we have urged the professions themselves to study the possibility and, if they do not favour state insurance, to introduce an equitable scheme of their own.

This applies equally to dentistry. Dental care is now regarded not as a luxury but as an integral part of health care. It is, nevertheless, expensive and is clearly beyond the means of some people. We have already seen some of the results of this kind of deprivation and what it has led to in other countries. In keeping its eyes on the possibilities, the Canadian Dental Association shows good sense.

CDARSP PASSES MILLION MARK

Total income of the Canadian Dental Association Retirement Savings Plan has passed the million dollar mark—\$1,007,578. This figure represents book value of the three (Government Bond, Corporate Bond, Common Stock) funds. Market value of the three funds is \$1,101,421.38. Book value of the common stock fund represents 53 per cent of the total; the corporate bond fund represents 30 per cent, and the government bond fund, 17 per cent of total book value.

During the quarterly period ending May 31, dentists deposited over \$276,000 in CDARSP. Unit values of the three funds are at their peaks. Starting at \$10 when the plan opened in 1958, unit values are now \$10.823

for the government bond fund, \$11.453 for the corporate bond fund, and \$14.014 for the common stock fund. More than 400 dentists are investing in CDARSP.

'LARGEST EVER' SASKATOON CONVENTION

About 400 dentists, many accompanied by their wives, attended the joint Canadian Dental Association—Western Canada Dental Society convention in June at the Bessborough Hotel in Saskatoon. Busy clinical and social programs informed and entertained dentists from all across Canada and parts of the United States.

Official delegates were present from the American and British Dental Associations. Dr. C. L. Endicott, a Toronto graduate now practising orthodontics in London, England, represented the British association. Dr. F. A. Pierson, of Lincoln, Nebraska, brought greetings from the American Dental Association.

The larger-than-expected attendance was especially gratifying to members of the Saskatoon Dental Society who, under Dr. F. A. Fernet's chairmanship, handled all local arrangements for the convention.

ALBERTA

Calgary and District Dental Society.—Dr. D. Dire and Dr. R. Morrow of Spokane, Washington addressed the society at the regular April meeting. Dr. Dire's subject was "Preventive Periodontia, Gingivoplasty and Alveoplasty". "Better Dentistry Faster but above all Better Dentistry" was the subject of Dr. Morrow's address. The meeting was well attended by many out of town dentists as well as local members.

Dr. J. A. Duncan presented a very thought provoking address entitled "Dental Health Insurance" at the May meeting.

New officers elected by the society to the 1961-62 executive are: G. W. Street, president; E. F. Allison, vice-president; A. D. Sparrow, secretary; and J. A. Duncan, treasurer.

BRITISH COLUMBIA

College of Dental Surgeons of British Columbia.—The long awaited move of the joint offices of the College of Dental Surgeons of British Columbia, the British Columbia Dental Association and the Vancouver and District Dental Society has been completed. The new address is 325 Georgia Medical-



Attending the recent annual convention of the British Columbia Dental Association in Kelowna were from left to right: C. R. Hallman, immediate past president of the B. C. College of Dental Surgeons; J. P. Whyte, immediate past president of the Canadian Dental Association; and William Miller, president of the Canadian Dental Association.

Credit: P. Ponich Studios, Kelowna

Dental Building. Facilities consist of a large business office, a much larger board room, a separate library combined with an office for the presidents of the three organizations and the editor of the *B.C.D.A. News Bulletin*, an equipment room for production of mass mailings to the profession, a small staff room and offices for the office secretary and the executive secretary.

M. Nacht was in sole charge of the direction of the details concerned with transfer of the premises. The former quarters in Suite 217 occupied 550 square feet. The new office occupies a spacious 1,450 square feet. For the past ten months additional space has been rented on the twelfth floor of the building to help accommodate the increased work load.

The new study club facilities on the sixteenth floor of the Medical Dental Building are also complete and have occasioned appreciative comments from the study clubs who are now renting them for their monthly meetings.

The following were elected to the Council of the College for 1961-62: B. Kjekstad and S. F. Miles, District No. 1; N. C. Ferguson, District No. 2; W. P. Munsie, M. Nacht, H. E.

Simmons, and D. H. Warren, District No. 3; L. E. English, District No. 4; and W. N. Fraser, District No. 5.

British Columbia Dental Association.—The following were recently named to the British Columbia Dental Association executive for the year 1961-62: J. C. Lewis, president; H. R. Henderson, past president; O. F. Wright, treasurer; D. G. Marshall, secretary, and F. A. Fergie, F. A. Freeze, J. E. G. Harrison, F. J. Netherton, H. G. Pettapiece, S. S. Banford, W. W. McLuhan, D. E. Waller, D. J. Yeo, and G. R. Young as directors.

New Executives Elected by Vancouver and Victoria Societies. — The following officers were recently elected by the Vancouver and District Dental Society for the year 1961-62: C. W. Gardner, president; R. E. Cline, president-elect; R. C. Tully, secretary-treasurer; and Patrick Boyle, W. M. Joiner, R. J. Dent, and J. A. Folkins, as directors.

J. A. Merrell, the retiring president, was presented with a gift in appreciation of his services to the society during the past year.

At the last meeting of the season E. C. McCoy, M.D. was the after-dinner speaker.

He was a member of a 4-man commission which was recently sent by the Canadian Medical Association to study the national health scheme of Australia.

A list of new officers for the Victoria and District Dental Society was announced on May 15. Elected to the society's executive were: W. G. Dempsey, president; A. Day-smith, vice-president; K. E. Leslie, secretary; G. C. Russell, treasurer; and H. M. Hare, W. E. Thompson and W. B. Milburn as members of the executive.

At the annual home talent night a clinic on hypnosis was presented by Eric Screech. Others participating in the program were N. E. Nichol, A. Daysmith, W. D. Kirstine, S. F. Miles, A. R. Proctor and W. D. McDougall.

Upper Island Dental Society.—Dr. A. E. Swanson of Vancouver addressed the society at its May meeting on "Lesions of the Head and Neck with Oral Manifestations of Systemic Disease".

New officers for the society are: R. D. Bleakley, president; H. J. Dombrowski, vice-president; H. G. Pettapiece, secretary; and D. I. Lazaruk, program chairman.

Advertising Brings Results.—There has been favourable reaction to the paid advertisement in newspapers sponsored by the British Columbia Dental Association through its public relations committee.

This type of patient education has used dental recruitment as a theme and to date over one hundred letters have been received at the association office requesting the pamphlet "Dentistry as a Career". A suitable reply is sent with the pamphlet to every person who makes enquiry. An attempt is also made to arrange personal contacts between each person and a local dentist.

On file are a number of letters from British Columbia newspaper editors, all of which are congratulatory and express the opinion that the dental association is taking a very wise step in promoting better understanding between the profession and the public through a series of releases in the press.

Communications have also been received from people in the public relations field expressing the thought that the association has shown initiative and wisdom in its advertising program.

NOVA SCOTIA

Nova Scotia Dental Association.—At a recent meeting held at the Faculty of Dentistry, Dalhousie University, the following officers of the Nova Scotia Dental Association were elected for the year 1961-62:

W. H. MacNeil, past-president; T. L. Rogers, president; H. P. MacCormack, president-elect; J. F. Burke, vice-president; A. A. Dunlop, secretary; P. S. Christie, delegate to the Board of Governors of the Canadian Dental Association; W. H. MacNeil, alternate delegate to the Board of Governors of the Canadian Dental Association; and H. M. Eaton, representative to the National Dental Examining Board of Canada.

Elected officers of the provincial dental board are: J. H. Rice, president; D. C. Eaton, vice-president; and G. M. Dewis, registrar-secretary.

The following committee members were elected: L. G. Israel, J. A. Tupper, M. E. Morrison, A. D. MacGregor, and R. H. Taylor.

Halifax County Dental Society.—A regular monthly meeting of the Halifax County Dental Society was held at the Nova Scotian Hotel on April 19. The guest speaker, Dr. P. S. Christie, professor of Orthodontics at the Faculty of Dentistry, Dalhousie University addressed the audience on the subject "Interceptive Orthodontics". Dr. Christie described numerous conditions which can be successfully treated by the general practitioner.

Dr. Christie has recently instituted a program throughout Nova Scotia, whereby dental practitioners in smaller communities are successfully treating patients with malocclusion under his direction. It is hoped through this program to stimulate the general practitioner to treat these simple cases, especially in areas removed from centres where orthodontic treatment may be obtained.

The final meeting of the Halifax County Dental Society was held at the Lord Nelson Hotel on May 19. This meeting took the form of a dinner and dance with visiting members of the Nova Scotia Dental Association in attendance.

The following officers were elected by the society for the year 1961-62; G. W. Caldwell, president; H. F. Taylor, vice-president, H. L. Sable, treasurer; G. E. Clark, secretary; L. J. Archibald and W. B. Coleman, auditors; and A. S. Frank, historian.

ONTARIO

Royal College of Dental Surgeons of Ontario.—A meeting of the board of directors held in Toronto, May 17-20 gave consideration to and resulted in the indicated action on the following matters:

Approval of an all-risks insurance program which will insure dental office furnishings and equipment against fire, burglary, vandalism, and the like.

Budgetary provision for admission scholarships into the Faculty of Dentistry, University of Toronto.

Participation in Mediscope '61 conducted at the Canadian National Exhibition.

The recently enacted Fluoridation Act, Hypnosis Control Act and Dental Technicians Amendment Act.

Appointment of C. Reynolds, J. F. Methven and W. J. Dunn to prepare and present a brief to the (Ontario) Select Committee on the Cost of Drugs. This presentation was made on June 15.

Prohibition of joint registration as a dentist and a dental technician.

Liaison with the Ontario Dental Association respecting the Workmen's Compensation Board of Ontario and other matters.

Co-operation with the Industrial Hygiene Division of the Ontario Department of Health respecting radiation control.

Advertising in the ethnic press.

Appointment of D. L. Rife as associate provincial editor for the *Journal of the Canadian Dental Association*. Dr. Rife succeeds Dr. J. F. Methven in this position.

It was also reported that 1,180 dentists treated 8,419 children under the Ontario Dental Welfare Plan during the past year. Some 4,504 payments were made for a total expenditure of \$174,324.12. The average payment was \$35.18.

It was noted that the dentist-population ratio had worsened slightly during the past year and now stands at 1 dentist to 2,394 people.

The board further received the results of the workshop conference on auxiliary personnel held on April 10, of the pilot evening course for dental assistants, and approved a petition from the Ontario Dental Nurses' and Assistants' Association to establish a certification program in Ontario.

More complete details will be published in the Annual Proceedings of the Royal College of Dental Surgeons of Ontario which will be sent to members of the profession early in September.

Academy of Dentistry, Toronto.—This year the Academy of Dentistry, Toronto, will

again sponsor an evening course program for training certified dental assistants. This is a continuation of the pilot course which was organized and conducted by the Royal College of Dental Surgeons of Ontario during the fall, winter and spring months of 1960 and 1961. Applicants must have reached their 17th birthday and have completed Ontario grade 11 or equivalent.

The lectures will be held on Monday and Wednesday evenings from 7.30 to 9.30 P.M. in the Central Technical School, running from the first week in October through the last week in March. The course will include all phases of dental assisting with some practical experience and demonstrations. The fee is \$75, which includes all materials and a text book. Enrollment will be limited to 25 applicants. An examination will be conducted toward the termination of the academic year. The student must have attended 90 per cent of the lectures to be eligible to take the examination. A passing grade in the examination will entitle the student to receive a Certificate in Dental Assisting from the Royal College of Dental Surgeons of Ontario.

While it is the object of this course to provide more trained dental assistants for the profession, it is felt that the opportunity should be given to those young ladies who are presently employed in dental offices and wish to avail themselves of this certificate course.

An application will be available on request to the Executive Secretary, Academy of Dentistry, 230 St. George Street, Toronto 5, Telephone 924-8041. On receipt of all applications, selection will be made and those selected will be notified by mail and an interview will be arranged. Applications for the year 1961-62 will not be accepted after September 5, 1961.

QUEBEC

Montreal Dental Club.—The Montreal Dental Club held its final dinner meeting of the 1960-61 season at the Queen Elizabeth Hotel on May 8.

Presentations were made to R. E. McMahon and J. W. Abraham in appreciation of their many years of outstanding service to the club. Dr. McMahon was recognized for his work in building up the strong support by exhibitors at the club's annual Fall Clinic, while Dr. Abraham was thanked for his devotion to the administrative problems of the club.

The guest speaker for the evening was Dr. G. C. Hare, associate professor of Operative Dentistry (Endodontics), University of

Toronto. Dr. Hare presented "A Discussion of Ten Years of Endodontic Failures", using slide illustrations to demonstrate the causative factor in a great variety of failures. Dr. Hare stressed the fact that proper radiographs are essential for correct interpretation. Treatment is of little value if the original diagnosis is wrong. He also noted that in endodontic treatment access is all-important. Instrumentation and root filling techniques were discussed as causative factors in endodontic failure. Once the canals have been properly sealed, a restoration must be placed in the tooth which will protect the cusps from splitting. Dr. Hare felt that this factor is all too often overlooked. A devitalized tooth becomes brittle, and if the restoration does not protect the cusps the possibility of fracture is very great.

International Items

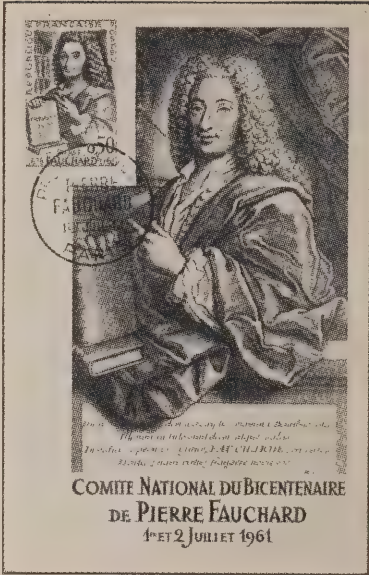
FEDERATION DENTAIRE
INTERNATIONALE

The Canadian Dental Association was represented by Association secretary Don W. Gullett at the 49th annual session of the Fédération Dentaire Internationale held in Helsinki, Finland, July 9-15. Dr. Gullett presented a paper entitled "A Delineation of Duties for Auxiliary Personnel" at this meeting. As chairman of the subcommittee on dental technicians, Public Dental Health Services Commission of the Fédération Dentaire Internationale, Dr. Gullett also presented a report respecting training programs for dental technicians in various countries of the world. The report noted that formal training of technicians is in a developmental stage in most countries but that there is a definite trend in the direction of formal training. A division was also noted between countries where a co-operative attitude exists between dental technicians and the dental profession and countries where such an attitude does not exist. In countries where a co-operative attitude is absent the technicians appear to have become strongly organized on a trade union basis and this feature may prove im-

portant in future. It was further noted that the concept of a dental health team is strong in some countries with the technician considered as a member of the team. The nature of the training program for the dental technician was considered to be rather vital if this concept is to be developed further.

XIII International Dental Congress, Cologne, 1962. — Further details of the program for next year's Cologne congress have been announced as follows:

- Meetings of the Council of the F.D.I.
July 4, 5, 12 and 15
- Opening Ceremony of the Congress
July 7 at 10.00 A.M.
- General Assembly of the F.D.I.
July 8 and 14
- Concert of organ music in Cologne
Cathedral July 8
- Reception at the Tanzbrunnen in the
Rhinepark July 9



This commemorative post card was issued to observe the recent Pierre Fauchard Bicentennial in France. A special commemorative postage stamp with "first day cover" cancellation appears in the upper left corner.

Banquet	July 11
Congress Ball	July 13 at 8.00 P.M.
Closing ceremony	July 14

A 5-day program of formal scientific sessions is scheduled for the mornings of July 9-13. Each day is devoted to a particular area of interest. The first morning is devoted to basic caries research, and the succeeding days to operative dentistry, prosthodontics, oral surgery and orthodontics. Z. Kasloff of the Faculty of Dentistry, University of Manitoba will participate on the prosthodontic program where he will comment on a paper given by R. LeHuche (France) on the "Treatment of Incomplete Dentition with Fixed Prostheses". Further details regarding the scientific program may be obtained from C.D.A. headquarters.

During the afternoon sessions there will be "free communications" and round-table discussions. The free communications are in-

tended to give as many dentists as possible from all over the world an opportunity of reporting their own original research work and practical experiences. Applications to present free communications are still being accepted. Communications should be restricted to subjects regarded as making a real contribution to dentistry and its allied fields. They should not have been previously presented or published either as articles or photographs. Manuscripts of brief communications should be submitted to the Secretary General of the Congress, Universitätsstrasse 73, Köln-Lindenthal, West Germany before November 30, 1961. Fifteen minutes will be maximum allowed for presentation of each paper.

One of the biggest international dental trade shows ever organized will be held in conjunction with the congress. There will also be an art exhibit with the theme "The



The nave of Cologne Cathedral



Panorama of Cologne seen from the Rhine Park.

Dentist as an Artist". This will include an exhibit of paintings, sculpture, works of graphic art, handicrafts and literary works which have been produced by dentists in their leisure hours. Dentists desiring to participate in the art exhibit are requested to communicate with Dr. Paul Jäger, Nikolaistrasse 2, Munich 23, West Germany.

The Archbishop of Cologne will celebrate a Pontifical Mass in world-famous Cologne Cathedral, and there will be appropriate solemn services for participants of other religious faiths. There will also be a program of organ music in the cathedral.

The ladies' program will include a large fashion show, an interesting shopping tour, visits to world-famous industrial concerns, museums and collections, tours of Cologne, excursions on modern Rhine steamers and visits to theatres. Several post-congress tours are also being planned.

Enquiries and applications should be addressed to the Secretary General of the Congress, Universitätsstrasse 73, Köln-Lindenthal, West Germany.

UNITED STATES

A.D.A. Representatives Meet President Kennedy.—American Dental Association representatives met with President Kennedy on May 26 at the White House to brief him on current dental affairs. The meeting had been arranged several months in advance but because of the pressure of international affairs, there was some doubt up until the last minute that it would be held. On hand for the American Dental Association were president C. H. Patton, president-elect J. R. Abel, secretary Harold Hillenbrand, and C. W. Camalier and Bernard Conway, assistant secretaries.

Also attending were two long-time congressional supporters of dentistry, Senator Lister Hill (Democrat-Alabama) and Representative J. E. Fogerty (Democrat-Rhode Island).

In the course of the meeting, Dr. Patton presented to Mr. Kennedy:

—A renewal of the invitation to address the 102nd annual session of the American Dental Association in Philadelphia, October 16-19.

—A reaffirmation of American Dental Association support of specific parts of Mr. Kennedy's health program, particularly provision of federal funds for construction and renovation of dental and medical schools and scholarships for their students.

—A specially bound copy of the Survey of Dentistry in the United States which emphasizes manpower and educational problems in the profession.

President Kennedy, who was preparing to leave for European conferences, allotted almost a half-hour for the meeting, sandwiching it in between conferences with Secretary of State Dean Rusk and J. J. McCloy, disarmament adviser.

In accordance with custom, no statement was issued and no formal comment was made on the association's proposals.

Denturist Attempts at Licensure in Illinois.

—Preliminary efforts of a "denturist" laboratory group to obtain licensure from Illinois have apparently failed. Members of the License and Miscellany Committee of the Illinois House of Representatives voted 15 to 11 to recommend that the two proffered bills be rejected by the legislature as a whole.

Of the two bills, the more important one would have established a practice act for "Oral Prosthetists" and would license them to deal directly with the public. The bill defined oral prosthetics as the "designing, making, reproducing and repairing of artificial, removable full and partial dentures." An "oral prosthetist" was defined as a person, other than a licensed dentist, who practised oral prosthetics. Other provisions of the rejected bill authorized use of the title "Registered Oral Prosthetist," provided for examination by the Department of Registration and Education for licensure and required that department to make rules and regulations for administering the Act only after giving "due consideration" to the recommendations of "experienced oral prosthetists and of organizations thereof." The second bill which the legislative committee turned down would have modified the present Dental Practice Act so that its provisions would not have applied to "Oral Prosthetists."

New versions of the bills have since been introduced in the Illinois legislature.

Denturists Hit by Idaho Ruling.

—Ruling on a question raised by a group of dental laboratory owners dealing directly with the public, the Idaho Supreme Court said June 2 that they could not perform any operation in the area of prosthetic dental service which required the presence, aid or assistance of the wearer or user of the appliance. This generally favourable ruling limits considerably the effect of a 1955 decision of the same court which said dental laboratories could relin and reproduce dentures directly for the public. The full effect of the new decision will be seen more clearly when, within the next few weeks, an order is prepared by a trial court to implement the Supreme Court decision.

Candy Consumption Increase in 1960.—Americans ate more candy in 1960 than ever before. U.S. Department of Commerce figures show that three billion pounds of candy were consumed during that year, an increase of more than 74 million pounds over 1959. To establish this new record, Americans ate sweets at the rate of 17 pounds per person.

New National Dental Health Centre.—The U.S. Public Health Service opened a National Dental Health Centre on the grounds of the Public Health Service Hospital, in San Francisco, July 1, 1961.

The Centre is operated by the Division of Dental Public Health and Resources. It occupies a former nurses' quarters made available by the Service's Hospital Division.

First of its kind, the National Dental Health Centre will provide facilities for applied research in the prevention and control of dental diseases and for training dental public health workers in the application of research findings.

This dual approach is designed to reduce substantially the time lag between the discovery of new knowledge and techniques and their subsequent use in dental health programs.

During the first year of operation, a staff of twenty will be assigned to the Centre, including four Public Health Service dental officers who will be receiving in-service training. As the Centre expands over the next five years, a program of applied research touching many phases of dental health will be conducted. Among initial projects to be undertaken will be an investigation of the epidemiology of periodontal disease and a study of factors associated with the occurrence of cleft lip and palate.

Training activities, like those in research, will also grow with the Centre. As programs develop, the Centre will offer demonstrations and training courses aimed at furthering the skills, knowledge and information of state and local health agency personnel, dental educators and private practitioners. Studies of problems in dental payment planning and dental education are also planned.

Expert assistance from outside the Centre will also be welcomed and encouraged. Reciprocal relationships will be developed with medical and dental schools, schools of public health, university departments in the social and basic sciences, and health departments.

It is further expected that the Centre will profit from the expert counsel of specialists in such fields as periodontics, orthodontics, and nutrition. Federal, state, and community hospitals will be invited to participate in co-operative research activities and in train-

ing programs mutually beneficial to them and to their communities.

"Crest" Action Taken.—The American Dental Association's Council on Dental Therapeutics, at its June 15-17 meeting, took action on *Crest* dentifrice. The council renewed the "B" classification of the stannous fluoride dentifrice for another year. The council, in making the decision, reviewed all available evidence, including third-year results of a study first considered at the time of original classification when only two-year results were available.

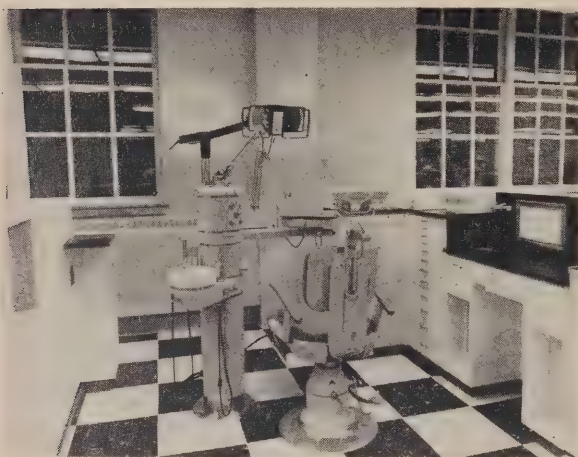
Dr. Sebelius Joins A.D.A. Staff.—Carl L. Sebelius has been named an assistant secretary of the American Dental Association and secretary of the Councils on Dental Health and International Relations. Presently director of the Tennessee Division of Dental Health, he will assume his new duties August 1.

A graduate of Northwestern University School of Dentistry and the University of Michigan School of Public Health, Dr. Sebelius has been associated with the Tennessee State Health Department since 1936, except for the years 1956-58. During that period he was a World Health Organization dental officer in Geneva, Switzerland and, in 1958, a member of the W.H.O. expert advisory panel on dental health. Dr. Sebelius is a past president of the American Association of Public Health Dentists and of the State and Territorial Dental Health Officers. Dr. Sebelius will be succeeded in Tennessee by Dr. Albert H. Trithart, presently director of the Montana Division of Dental Health.

Canadian Dental Schools

UNIVERSITY OF ALBERTA

Honouring one of its own graduates, the University of Alberta has conferred an honorary doctor of laws degree upon H. K. Brown, head of the dental division of the



A student cubicle in the general clinic, University of Alberta Faculty of Dentistry.

Department of National Health and Welfare. Dr. Brown is a 1930 graduate of Alberta's dental faculty.

Close to 1,000 persons attended the medical-dental convocation in Edmonton on June 2. Twenty-four new dentists and 48 medical graduates received degrees at the ceremony and took professional pledges. The new Medical Sciences Building, which houses the expanded dental school, was officially opened before convocation.

In the convocation address, Dr. Brown said public demand "has given rise to health care plans sponsored by professional groups and by co-operatives" and government interest in these developments is increasing. "One thing is reasonably certain: the pattern of group budgeting for health and hospital care has become so well established in our society, and is so clearly on the increase, that more developments in that direction are highly probable, if not inevitable." Leadership of the health professions, said Dr. Brown, is essential in the development of new planning.

With the official opening of the new addition to the Medical Sciences Building on June 2, the Faculty of Dentistry will benefit from improved facilities for teaching and research. The objectives in planning new areas for the Faculty of Dentistry were to provide the space and equipment necessary so that dental undergraduates can be adequately trained to provide the health services required by the current standards of the dental profession, to establish areas for research and for postgraduate and dental auxiliary training

and to provide suitable common rooms for the faculty, the students and the assistants.

On the first floor of the Medical Sciences Building there is a combination locker and common room for first- and second-year students, an office for the dental undergraduate society, a stores and maintenance area and accommodation for non-academic male staff.

On the second floor which includes the main entrance to the school, a receiving area with a switchboard and intercommunication control system is located. A records section is placed near the receiving area where personnel can screen patients as to financial problems and availability. Another area on this floor provides consulting and treatment facilities for full-time staff members. Adjacent to a common waiting room off the main corridor and elevators there are areas available for patient screening, emergency radiology and diagnosis. The diagnostic department consists of four fully equipped operating rooms providing the most modern facilities. Approximating the diagnostic department there is an endodontic clinic, a surgical demonstration unit communicating with a seminar room, a preclinical endodontic laboratory, an oral pathology and a dental caries laboratory. Next to the diagnostic section there is also a complete radiology department consisting of four machines with remote controls, a developing room, reading and working area plus an office and storage area. This floor also accommodates the public health and dental auxiliary area where there are ten dental units, a demonstrating room, a counselling room, a locker and a change area, a reception and dispensary

area and offices for the director and staff. There are rooms for photography, teaching aids storage and control, and for a closed circuit television studio from which it will be possible to project teaching programs to any of three lecture rooms, two technical laboratories and one amphitheatre. There are also common rooms for undergraduate female students, non-academic female staff and third- and fourth-year students as well as the students' locker and a dental museum.

On the third floor, the main clinical area has 54 dental unit installations, an administration area and dispensary, a large waiting room, a technician's service area, demonstration rooms, four technical laboratories, as well as casting, ceramics and plaster rooms. The children's clinic is also on the third floor and includes both orthodontic and paedodontic departments. This clinic has 16 dental units, a children's waiting room, a dispensary, a laboratory and four demonstrating rooms. Next to the main clinic there is an occlusal assessment area which consists of two operating units, extraoral radiology facilities and a conference room where instruction is offered in this important subject. This level also includes quarters for part-time staff, research laboratories and the departmental offices.

The whole is equipped with the most modern apparatus available and will, together with the excellent basic science facilities, offer the undergraduate and graduate student every opportunity to be well trained in the various fields of dental education.



Margaret Berry, whose appointment as assistant professor and director of Dental Auxiliary Training was recently announced by the Faculty of Dentistry, University of Alberta.

UNIVERSITY OF MANITOBA

C.D.A. Meeting at Saskatoon.—The Faculty was well represented at the annual convention of the Canadian Dental Association and the Western Canada Dental Society, at Saskatoon. Table clinics were presented by the following: G. A. Brass—Silver Plating; J. Diepenheim—Gold Foil Restorations; H. Hart and R. McCarten—Denture Occlusion; S. Norquay, W. Shortill and R. Jordan—Recent



Faculty of Dentistry, University of Alberta. A section of the general clinic, left, and the junior laboratory, right.

W. H. FEASBY



Advances in Endodontics; Z. Kasloff—Crown and Bridge Abutment Construction; and W. Schram—Details of the Surgical Flap in Tooth Removal.

Appointments.—It is with pleasure that the Faculty welcomes Dr. W. H. Feasby of Hamilton, Ontario as associate professor of Restorative Dentistry (Paedodontics). Born and educated in Ontario, he graduated from the Faculty of Dentistry, University of Toronto in 1943 to join the Royal Canadian Dental Corps. Following the war, he spent some time in private practice before returning to the Toronto dental school where he obtained his diploma in paedodontics in 1952. He subsequently restricted his practice in Hamilton to paedodontics before taking up his appointment in Winnipeg. He is an active member of various dental associations, and has been on a number of committees. For several years he has been a staff member of the Burlington, Ontario, Interceptive Orthodontic Research Centre.

Staff Dinner.—The staff is holding a dinner to say farewell to two members of the part-time staff. C. Purdy is leaving Winnipeg to take up an appointment at Camp Borden, Ontario. R. E. Jordan leaves to go to the University of Washington, Seattle, for graduate study en route to Dalhousie University, where he is to assume direction of the Department of Restorative Dentistry.

UNIVERSITE DE MONTREAL

A panel discussion was held on March 16 on the subject "Examination of the Dental Status in Quebec: Influence of the American Survey of Dentistry on Incumbent Measures for the Benefit of the Population." Panel participants included Jean Yergeau who dis-

cussed dental practice, J. C. Bouillon who commented on dental public health, J.-P. Lussier who spoke on dental education, Zdenek Mězl who reviewed dental research, and Gérard de Montigny who acted as moderator.

Recommendations were made to increase the productivity of dental practice through the use of auxiliary personnel and group practice principles. Intensified dental health education, promotion of water fluoridation and additional public health trained dentists were urged to implement dental public health measures. Increased funds were requested for all aspects of dental education. Improvement in the quality of dental students and adaptation of the dental school curriculum to the current social trends were also recommended. It was felt that financial support for dental research should be sought from private as well as from government sources.

A full account of the symposium with English summaries was published in the *Journal of the Canadian Dental Association*, Vol. 7—Nos. 5 and 6—May and June 1961.

Royal Canadian Dental Corps

BRIGADIER BAIRD INSPECTS UNITS IN EUROPE

Brigadier K. M. Baird, Director General of Dental Services for the Canadian Forces, inspected R.C.D.C. personnel and facilities of No. 35 Field Dental Unit with headquarters in Metz, France and No. 4 Field Dental Company with headquarters near Soest, Germany. While in Europe, Brig. Baird also conferred with the Directors of United Kingdom Armed Forces Dental Services and presented a paper at the *Fédération Dentaire Internationale* meeting in Helsinki, Finland on July 9.

NEW OFFICERS IN THE CORPS

Nine new dental officers have been appointed to the R.C.D.C. following graduation.

Captain M. A. Abramson, D.D.S., graduated from the University of Toronto and

has been posted to Eastern Command for employment at H.M.C.S. Cornwallis. Although born in Montreal, he spent most of his life in the United States and completed his first three years of dentistry at the University of Pittsburgh.

Captain H. W. Brogan, D.D.S., of Minto, N.B., a Dalhousie graduate, has been posted to Fort Churchill.

Captain M. N. Deyette, D.D.S., of Parry Sound, Ont., graduated from the University of Toronto and has been posted to Central Command for employment at Camp Petawawa.

Captain J. G. B. Dionne, B.A., D.D.S., of Montreal graduated from the Université de Montréal and has been posted to R.C.A.F. Station, Comox, B.C.

Captain A. G. Garden, D.D.S., of Saskatoon and Rolling Hills, Sask., graduated from the University of Alberta and has been posted to Calgary.

Captain J. F. A. Marcel, B.A., D.D.S., of Montreal graduated from the Université de Montréal and has been posted to Montreal.

Captain K. S. M. Mathers, D.D.S., of Mimico and Kitchener graduated from the University of Toronto and has been posted to R.C.A.F. Station, Rockcliffe, Ont.

Captain A. L. Moran, D.D.S., of Port Arthur graduated from the University of Toronto and has been posted to R.C.A.F. Station, Downsview, Ont.

Captain R. J. Paturel, B.Sc., D.D.S. of Halifax graduated from Dalhousie University and has been posted to Fort Churchill.

Captain P. P. Prudhomme, B.A., D.D.S., of St-Jérôme, P.Qué. graduated from the Université de Montréal and has been posted to Montreal.

POSTINGS

The following postings have taken place recently in the Corps:

Major F. D. Charman from Griesbach Barracks, Edmonton to No. 35 Field Dental Unit, France.

Major R. A. Fell from H.M.C.S. Naden, Esquimalt, B.C. to R.C.A.F. Station Goose Bay, Labrador.

Major I. A. C. MacDonald from No. 35 Field Dental Unit, France to Calgary.

Major J. C. E. McDonald from the Middle East to Edmonton.

Major F. M. Nesbitt from R.C.A.F. Station, Winnipeg to the Royal Canadian School of Military Engineering, Vedder Crossing, B.C.

Major L. A. Richardson from R.C.A.F. Station Namao, Alberta to Winnipeg.

Major E. J. C. Small from Oakville, Ont. to the Middle East.

Major J. M. Smith from R.C.A.F. Station Goose Bay to the R.C.D.C. School, Camp Borden.

Captain F. C. Arpin from Fort Churchill, Man., to the Middle East.

Captain R. D. Bunt from R.C.A.F. Station Winnipeg to the Middle East.

Captain R. H. Headley from R.C.A.F. Station Parent, P.Qué. to No. 4 Field Dental Company, Germany.

Captain H. K. Meisner from H.M.C.S. Cornwallis, N.S. to No. 35 Field Dental Unit, France.

Captain J. J. Y. Turcotte from R.C.A.F. Station Goose Bay to No. 35 Field Dental Unit, France.

Public Health

PERSONNEL IN THE NEWS

W. A. Zackerl, director of Dental Health Services for the City of Edmonton, was recently elected as vice-president of the Alberta Division, Canadian Public Health Association for the year 1961-62. The annual meeting of the Alberta division was held at the Beacon Hotel, Calgary, April 5-7.

It is reported that F. M. Brunton, regional dental consultant for the Vancouver Island health units, has resigned his appointment.

FLUORIDATION RESULTS IN BRANDON

The Bureau of Dental Services, Manitoba Department of Health, has compiled a record of the effects of fluoridation in the city of Brandon. Fluoridation was started in March 1955, and annual surveys have been conducted since its inception. An interim report has now been prepared, which was presented by the director of the Bureau, R. A. Connor, at the spring meeting of the Manitoba Public Health Association, held during April. The results after five years are as follows: in the 6 to 9 year age group there was an increase in caries-free children (permanent teeth) from 32.41 per cent to 34.35 per cent, and a decrease in DMF teeth per child from 1.95 to 0.77.

C.P.H.A. DENTAL HEALTH SECTION

At the recent meeting of the Canadian Public Health Association Regina, Saskatchewan, the following were elected as officers of the Dental Health Section for 1961-62: H. S. Grey of Toronto, chairman and section delegate to the C.P.H.A. executive council; R. A. Connor of Winnipeg, vice-chairman; and R. E. Feasby of Toronto, secretary.

The next annual meeting will be held in association with the Ontario Public Health

Association at the King Edward Sheraton Hotel, Toronto, May 29-31, 1962.

OTTAWA VALLEY TOWN TO FLUORIDATE

The town council of Perth, Ontario voted on May 11 to fluoridate the public water supply. The council acted on a request from the local board of health. Perth may shortly become the third Ottawa Valley town to fluoridate its water. Brockville and Deep River already fluoridate their water supplies.

THE LIBRARY

Additions

BRESCIA, N. J. Applied dental anatomy. St. Louis, Mosby, 1961. 212p. illus. \$7.50

DEMPSTER, W. T. Selected dissections of the facial regions for advanced dental students. 4th ed. Ann Arbor, Overbeck, 1960. 217p. illus. \$5.50

EKHOLM, A. Fractures of condyloid process of mandible. (Suomen Hammaslaakariseuran Toimituksia, Vol. 57, Suppl. I, 1961.) 80p. illus.

ERICKSON, M. H., HERSHMAN, S. & SECTER, I. I. The practical application of medical and dental hypnosis. New York, The Julian Press, Inc., 1961. 470p. \$12.50

RENFROE, E. W. Technique training in orthodontics. Ann Arbor, Edwards Brothers, Inc., 1960. 230p. illus. \$20.00

TAYLOR, M. G. The administration of health insurance in Canada. Toronto, Oxford Univ. Press, 1956. 270p. \$5.00

THILANDER, B. Innervation of the temporomandibular joint capsule in man; an anatomic investigation and a neurophysiologic study of the perception of mandibular position. Stockholm and Umea, Transactions of the Royal Schools of Dentistry. Publications of the Umea Research Library—Series 2:7, 1961. 67p. illus.

THILANDER, H. Periodontal disease in the white rat; experimental studies with special reference to some aetiologic and pathogenetic features. Transactions of the Royal Schools of Dentistry, Stockholm and Umea. Publications of the Umea Research Library—Series 2:6, 1961. 99p. illus.

VIRTANEN, I. Free autoplasmic bone grafting in mandibular defect fractures. (Suomen Hammaslaakariseuran Toimituksia, Vol. 57, Suppl. I, 1961.) 163p. illus.

DENTAL PERSONNEL IN CANADA

In January 1961, 5,865 dentists were registered in Canada. — C.D.A. Bureau of Economic Research.

IN MEMORIAM

Harold Leroy Bruce—Dr. Harold Leroy Bruce of Toronto, Ontario, died on June 6. He was 66.

Dr. Bruce was born in Glenallen, Ontario in 1895. He graduated from the Royal College of Dental Surgeons of Ontario in 1923.

Harold Keith Davey—Dr. Harold Keith Davey of Toronto, Ontario, died on May 31, 1961. He was 64.

Dr. Davey was born at Enterprise, Ontario and educated at Parkdale Collegiate Institute in Toronto. After service in World War I as a dispatch rider in the Signal Corps, 2nd Division, he entered the Royal College of Dental Surgeons of Ontario. He graduated in 1924 and practised in Toronto's Parkdale district for 32 years.

Surviving are his wife, Nellie; a son, Keith; a daughter, Mrs. W. J. Jenkins; his father, Allen Davey; two brothers, Ross and Eric;

and four sisters, Mrs. M. Sproule, Mrs. J. Lorimer, Mrs. R. Covert, and Mrs. J. Nixon.

William Stewart Hay Sinclair—Dr. William Stewart Hay Sinclair of Ottawa, Ontario, died June 13, 1961. He was 67.

Dr. Sinclair was born at Bergerville, P. Que. In 1916 he graduated from the Royal College of Dental Surgeons of Ontario and from 1916 to 1920 served as Captain in the Canadian Army Dental Corps. On leaving the army he set up practice in Ottawa where he remained until his retirement in 1956.

Dr. Sinclair is survived by his wife, Eileen and a sister, Agnes.

Howard Orville Edward Stanley—Dr. Howard Orville Edward Stanley of Ottawa, Ontario, died on May 21. He was 57.

Dr. Stanley was born in Ottawa in 1904 and graduated from the Faculty of Dentistry, University of Toronto in 1930.

Joint Meeting

THE CANADIAN DENTAL ASSOCIATION

and

BRITISH COLUMBIA DENTAL ASSOCIATION

June 3 - 6, 1962

Queen Elizabeth Theatre, Vancouver, British Columbia

ANNOUNCEMENTS

Conventions of the Canadian Dental Association

1962	Vancouver, British Columbia	June 3rd-6th
1963	Toronto, Ontario	May 19th-22nd
1964	Edmonton, Alberta	June 28th-July 1st
1965	Quebec City, Quebec	May 30th-June 2nd

1967	Toronto, Ontario (Centennial Celebration of Dentistry in Canada)	May
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FUTURE EVENTS

Date	Function	Location	Officer	Address
Aug. 14-18, 1961	16th Australian Dental Congress	Sydney, Australia	Mr. D. Freeman,	T. & G. Bldg., Park St., Sydney, Australia
Sept. 8-10, 1961	Northern Ontario Dental Association	The Armoury, Sault Ste. Marie, Ont.	Dr. T. G. White,	519 Queen St. East, Sault Ste. Marie, Ont.
Sept. 12-15, 1961	2nd Intl. Czechoslovak Stomatol. Congress	Marienbad, Czechoslovakia	Dr. F. Urban,	Karlovo nam. 32, Prague 2, Czechoslovakia
Sept. 17-19, 1961	Eastern Ontario Dental Association	Chateau Laurier Hotel, Ottawa	Dr. H. B. Squires,	142 Laurier Ave. West, Ottawa, Ont.
Oct. 13-15, 1961	German Dental Association	Mainz, West Germany	Dr. P. Jaeger,	Nikolaistrasse 2, Munich 23, W. Germany
Oct. 16-19, 1961	American Dental Association	Philadelphia, Pennsylvania	Dr. G. N. Casto, Jr.,	222 East Superior St., Chicago 11, Illinois
Oct. 19-21, 1961	Japanese Assn. for Dental Science	Tokyo, Japan	Dr. Masaru Nagao,	4-6 Kudan, Chiyoda-Ku, Tokyo, Japan
Oct. 23-25, 1961	Montreal Dental Club Annual Fall Clinic	Queen Elizabeth Hotel, Montreal	Dr. J. Vincelli,	6542 Somerled Ave., Montreal, P.Que.
Nov. 12-19, 1961	Uruguay-Argentine Intl. Dental Congress	Montevideo, Uruguay	Dr. J. C. Turrell,	Av. Agraciada 1464, (P. 13) Montevideo, Uruguay.
Nov. 20-26, 1961	Congrès de l'Entente Odontologique	Porte de Versailles, France	Dr. J. L. Dephilippe,	39 Blvd. Malesherbes, Paris 8e, France
Dec. 27-31, 1961	Alpha Omega Fraternity	Queen Elizabeth Hotel, Montreal	Dr. F. Vosburg,	5292 Queen Mary Road, Montreal, P.Que.

Other information concerning dental meetings outside Canada is available at C.D.A. Headquarters upon request.

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Médication antibiotique en dentisterie*

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Cet exposé n'a pas pour but de donner en détail la liste interminable des antibiotiques sur le marché contemporain. L'industrie pharmaceutique présente les antibiotiques sous plusieurs formes. Il importe de les classer et de fixer leur valeur en dentisterie.

Les antibiotiques sont devenus depuis quelques années la réponse à tous les problèmes d'infection et d'inflammation de la profession médicale et dentaire. On s'en est peut-être servi à tort et à travers et, en exagérant ainsi leur usage, les antibiotiques sont devenus, en certains cas et pour certaines personnes, néfastes. Il faut les utiliser avec prudence.

GÉNÉRALITÉS

L'antibiothérapie est une thérapeutique révolutionnaire basée sur l'utilisation de substances d'origine soit mycélienne (champignons inférieurs), soit bactérienne¹.

L'antibiotique est donc, par définition², une substance chimique qui, produite par des microorganismes, a la propriété d'inhiber la croissance et de détruire les bactéries et autres microorganismes et cela en solution diluée.

On pourrait classer les antibiotiques de plusieurs façons: certains auteurs² les classent selon leurs types, d'autres¹ selon leur provenance et leur action.

Combinons ces différentes méthodes pour avoir une classification plus simple et plus claire.

*Travail qui a valu à son auteur une mention au Concours 1961 du Mémorial de Guerre de l'A.D.C.

TABLEAU 1 Classification des antibiotiques^{1, 2}

Groupe	Nom	Provenance	Usage	Spectre
1. bactériostatique	Chloramphenicol	Streptomyces venezuelae	général	large
	Auréomycine	Streptomyces auréofaciens	"	"
	Terramycine	Streptomyces rimosus	"	"
	Tétracycline	Hydrogénation de Auréomycine	"	"
2. bactériostatique et bactéricide	Pénicilline	Pénicilline Notatum	"	"
	Spiramycine	Streptomyces ambofaciens	"	restreint
	Streptomycine	Streptomyces griseus	"	large
3. antibiotiques de contact	Tyrothricine	Bacillus Brevis	externe	restreint
	Bacitracine	Bacillus subtilis licheniformis	"	"
	Framycétine	Streptomyces décaris	"	"

Disons maintenant un mot de la spécificité des antibiotiques.

Chaque antibiotique possède un spectre qui est tantôt large, tantôt restreint; sa spécificité se manifeste aussi par son action qui peut agir de quatre façons différentes²:

(a) stérilisation microbienne irréversible ou *bactéricide*

(b) suspension réversible de l'action microbienne ou *bactériostatique*

(c) ralentissement de la croissance microbienne ou *bactériostase*

(d) désintégration complète ou lyse cellulaire ou *bactériolyse*

Un point très important est celui de l'association d'antibiotiques comme agent thérapeutique idéal et plus efficace. Cette association² de différents agents a pour but: 1^e de diminuer les effets toxiques, 2^e de prévenir l'éclosion d'organismes résistants, 3^e traiter des infections mixtes, 4^e pour attendre un meilleur résultat que

celui obtenu avec la même quantité de l'un ou l'autre antibiotique seul.

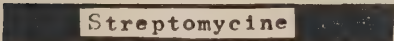
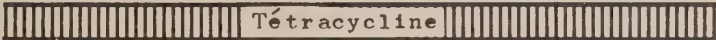
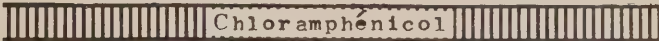
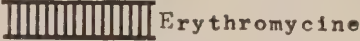
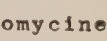
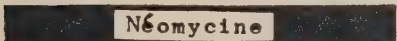
Citons ici l'exemple d'une racine infectée⁴, où même si on a obtenu des résultats satisfaisants avec un seul antibiotique, il a été trouvé qu'une préparation de plusieurs agents agit mieux sur la flore multibactérienne présente, i.e. une combinaison de pénicilline, streptomycine et bacitracine, plus le caprylate de sodium; on appelle ce mélange la pâte de Grossman.

On pourrait citer d'autres exemples, mais la liste serait trop longue.

Ajoutons que, lorsqu'on emploie une association de deux ou trois antibiotiques, nous sommes en présence d'actions antibiotiques variées qui se manifestent soit par *indifférence*, i.e. une action ni accrue, ni diminuée, soit par *synergisme*, i.e. une action accrue, soit par *antagonisme*, i.e. une action diminuée².

Degnan⁵ signale trois cas de patients qui offrent une réaction néfaste à l'usage des antibiotiques. Selon lui, les principales erreurs sont les suivantes: 1) on s'en sert

TABLEAU 2 Tableau résumant le spectre des principaux antibiotiques³

Bacilles acidogènes	Bactéries Gram-	Bactéries Gram ⁺	Spiro- chètes	Rickett- sies	Virus
		 Pénicilline 			
	 Streptomycine 				
	 Tétracycline 				
	 Chloramphénicol 				
Polymyxine 					
		 Bacitracine 			
	Tyrothricine 				
		 Erythromycine 			
	Spiramycine 				
	 Néomycine 				
 = bactéricide			 = bactériostatique		

trop de façon routinière pour la chirurgie en général, 2) on ne fait pas de tests de laboratoire avant de s'en servir, 3) on s'en sert en trop petites doses.

Il ne faut pas oublier que l'usage des antibiotiques produit une variation de sensibilité individuelle² qui est marquée par une résistance et des réactions allergiques qui peuvent conduire jusqu'au choc anaphylactique.

Une administration prolongée peut créer une résistance chez le patient; cette résistance découle des phénomènes suivants:

(1) modification de la perméabilité de

la paroi bactérienne nuisant à la pénétration de l'antibiotique;

(2) acquisition par la bactérie d'un mécanisme d'inactivation directe ou indirecte;

(3) production ou utilisation plus efficace par les bactéries des métabolites et enzymes;

(4) utilisation et développement par la cellule d'une voie métabolique nouvelle ou qui ne jouait auparavant qu'un rôle accessoire.

Les réactions allergiques ou toxiques se manifestent de façon primaire, directe ou

indirecte, et de façon secondaire. La toxicité primaire directe est attribuable à une action nocive des antibiotiques sur les organes; la toxicité primaire indirecte est la conséquence du pouvoir antimicrobien lui-même, lorsqu'il provoque une libération de produits toxiques par une destruction massive des germes; la toxicité secondaire se manifeste par une réaction du type allergique qui résulte de la sensibilisation d'un individu à la suite d'un contact antérieur connu ou inconnu, soit par les antibiotiques, soit par les antigènes qui lui sont apparentés².

LES ANTIBIOTIQUES EN DENTISTERIE

"Le praticien d'aujourd'hui, en prescrivant à son patient une médication rationnelle, n'éprouve non seulement la satisfaction d'un individu à la suite d'un agent thérapeutique utile, mais, en plus, il se rehausse, au point de vue professionnel, dans l'estime de celui-ci"⁶.

Il est vrai en effet que le dentiste est conscient de la valeur des antibiotiques comme aide prophylactique et dans le traitement des infections susceptibles de suivre les manœuvres opératoires et aussi dans le traitement des maladies présentées par le patient.

C'est en chirurgie, comme le dit Degnan⁵, que l'antibiotique sert le plus au dentiste et sa valeur se manifeste comme mesure prophylactique aussi bien que comme traitement d'une infection aiguë avant et après les opérations. Degnan continue en disant que, même si on rejette l'usage routinier des antibiotiques, il ne faudrait pas oublier de les employer toujours avant la chirurgie buccale chez les patients souffrant de maladie telle que: maladie de cœur, rhumatismale ou congénitale, diabète ou maux de reins, endocardites subaiguës, arthrite rhumatismale et finalement pour les patients traités aux stéroïdes et aux radiations.

Un autre domaine où l'antibiothérapie a un rôle à jouer est l'endodontie. Les antibiotiques offrent certains avantages sur les antiseptiques dans le traitement des canaux de racines infectées. Leur pouvoir

de diffusion étant plus grand que celui des antiseptiques, ils pénètrent davantage les tissus environnants⁴. Les antibiotiques peuvent donc servir dans le traitement de racines infectées¹¹.

Ce qui a été dit plus haut au sujet des antibiotiques en chirurgie et en endodontie s'applique aussi à la périodontie.

Et, poursuit Degnan⁵, les cas les plus fréquents sont la gingivite chronique et aiguë, les périodontites et les périodontoses. Les antibiotiques, pour sûr, n'enlèvent pas les calculs, ne nettoient pas une poche osseuse ou ne corrigent pas une occlusion faussée; cependant, les cas de gingivite de Vincent aiguë exigent les antibiotiques, car cette maladie peut causer des complications graves, si elle n'est pas traitée adéquatement.

Finalement, Stout¹⁵ parle d'un rinçage-bouche à la terramycine qui s'est avéré très efficace dans les gingivostomatites et les stomatites membraneuses. C'est une méthode de traitement rapide, non-toxique et tolérée par les tissus; en plus, son effet analgésique apporte beaucoup de confort au patient.

Faisant classe à part, les dentifrices à base de pénicilline ont été très concluants en ce qu'ils peuvent contribuer à faire diminuer le taux de la carie chez les enfants¹⁴.

LES ANTIBIOTIQUES EN CHIRURGIE

La valeur et l'utilité des antibiotiques se manifestent le plus en chirurgie.

Nous parlerons de sa valeur comme mesure préventive et ensuite comme thérapeutique.

Comme mesure préventive, les antibiotiques sont indiqués dans les cas de rhumatisme articulaire aigu, les endocardites, la maladie de Bouillaud, la bactériémie suivant les extractions chirurgicales et les états hémolitiques.

Evans et Chatwin⁷ signalent, chez un soldat de 19 ans, une complication de rhumatisme articulaire aigu consécutive à une alvusion dentaire totale. Le patient était apparemment en bonne santé avant l'extraction d'une denture avariée; les

auteurs croient que l'administration d'un antibiotique avant l'intervention aurait suffi pour éviter cette déplorable complication. Dans l'étude du cas, ils signalent la présence normale de streptocoques dans la cavité buccale; par conséquent, la chirurgie présente toujours une possibilité de bactériémie à streptocoques qui peut à son tour conduire au rhumatisme articulaire aigu.

Au Children's Center de Kansas⁸, on administra une injection intra-musculaire de 1,200,000 U.I. de Bicilline à toutes les quatre semaines à 96 enfants atteints de la maladie de Bouillaud à la phase aiguë ou qui avaient présenté auparavant des crises de rhumatisme articulaire aigu. Après 14 mois de traitement et d'observation, le *Journal of the American Medical Association* rapportait qu'"aucune récurrence clinique de la maladie de Bouillaud ne fut signalée parmi ces malades dont

ceptible de causer des dommages graves, comme nous le rapporte Zubrow¹⁰, d'après des recherches faites par O'Kell et Elliot pour démontrer l'incidence de bactériémie dans les cas suivants:

Zubrow continue en disant que les diabétiques offrent moins de résistance aux infections et que ces patients, à cause de leur diminution du processus de guérison, sont plus susceptibles aux infections secondaires.

Dans ces cas, une prophylaxie antibiotique doit être employée 24 heures avant l'opération et continuée tant que les dangers d'infection secondaire ne sont pas passés.

Il en est ainsi pour les patients présentant des conditions hémolytiques anormales. Ces patients démontrent une susceptibilité particulière à l'infection secondaire et, par conséquent, le traitement

TABLEAU 3 L'incidence de bactériémie suivant les extractions dentaires

Maladies	Incidence de bactériémie
Pyorrhée marquée (plusieurs extractions)	75%
Pyorrhée modérée (plusieurs extractions)	70%
Gencive normale (1 ou 2 extractions)	43%

l'affection traversait une période de repos au moment de l'instauration du traitement prophylactique".

Kuttner⁹, en commentant la maladie de Bouillaud, déclare qu'il est préférable de soumettre les rhumatisants avérés à un traitement prophylactique continu, quoiqu'un traitement de l'infection streptococcique aiguë soit généralement suffisant pour prévenir le rhumatisme articulaire aigu.

Dans les cas d'extractions dentaires, les mesures prophylactiques sont de bon usage pour prévenir une bactériémie sus-

prophylactique aux antibiotiques est justifié.

Alling et Pulaksi¹⁴, dans un article publié en 1959, abordent le problème en général et affirment que les antibiotiques sont surtout utilisés aujourd'hui pour la prévention des infections. Selon ces auteurs, les cas d'extraction simple ou les opérations chirurgicales mineures telles que: apéctomie, chirurgie pour prothèse immédiate, biopsie, excision de petits kystes ou tumeurs, n'exigent pas l'antibiothérapie, si la bouche du patient est normale et si le patient est en bonne santé.

Cependant, il y a des cas où l'usage de ces médicaments est devenu indispensable et a révolutionné le traitement. Chez certains patients, une bactériémie est à craindre après une intervention chirurgicale. Ordinairement, les bactéries sont détruites rapidement par les cellules réticulo-endothéliales, mais chez un patient qui a des végétations fibrineuses aux valvules du cœur, il est dangereux que les bactéries s'y implantent pour causer une endocardite infectieuse.

Degnan⁵ cite deux cas où l'antibiotique préventif peut être employé: les fractures faciales, surtout les fractures composées, (on emploie alors de la procaine-pénicilline 600,000 U.I., deux fois par jour, ou de la streptomycine, 500 mg. deux fois par jour) et les cas de perforation accidentelle des sinus maxillaires (on emploie alors des antibiotiques à large spectre, comme la tétracycline à raison de 500 mg. immédiatement, puis 250 mg., quatre fois par jour, pour cinq jours, afin de prévenir une sinusite).

Les antibiotiques sont aussi fréquemment employés en chirurgie comme thérapeutique.

Des auteurs nous rapportent de multiples cas où cette médication s'est avérée utile et même nécessaire, mais aussi nous mettent en garde contre certains abus.

Dans *Use and Abuse of Antibiotics*, Degnan⁵ nous donne les indications et les contre-indications à l'emploi de ces médicaments.

Contre-indications: dans les cas d'abcès chronique, pulpite aiguë (on donne alors un analgésique et non un antibiotique), kyste et dent incluse où une médication spécifique, i.e. contre l'inflammation et contre la douleur et un antibiotique seulement dans les cas d'infection secondaire; dans les cas de périoronite, fracture faciale simple et finalement dans les cas d'alvéolite et ostéite où le pansement antiseptique et analgésique est encore l'agent de choix.

Indications: dans un cas d'abcès alvéolaire aigu pour éviter des complications sérieuses, on emploie de préférence la pénicilline V potassium 400,000 U.I., "per os", trois fois par jour ou l'érythromycine 500 mg., immédiatement et 250 mg., quatre fois par jour.

La thérapie, dans ce cas, se continue trois jours après la baisse de la température. Dans des cas de périoronite aiguë, on donnera le même traitement que dans les cas de l'abcès alvéolaire aigu, car, en plus de guérir la maladie, on prévient des complications, à savoir: abcès du pharynx, lympho-adénite, angine de Ludwig, qui sont autant de bonnes raisons pour prouver la nécessité des antibiotiques. Dans des cas de fractures composées, d'ostéomyélite ou d'infection qui requiert une médication antibiotique, l'érythromycine, à 1 Gm. intra-veineux à toutes les huit heures, avec 2 Gm. "per os" par jour, est employée avec succès au stage aigu; pour une phase chronique ou après disparition des symptômes aigus, on peut continuer la médication "per os". L'auteur mentionne enfin la perforation accidentelle des sinus, mais la médication en est une de prévention, comme on l'a dit plus haut.

Vigneul¹⁵ préconise la médication antibiotique en général dans les affections osseuses, les ostéites diffuses d'origine dentaire, l'ostéomyélite hématogène; l'ostéo-radionécrose est, par excellence, la maladie qui répond le mieux à cette thérapeutique. Selon lui, les cellulites diffuses, les septicémies et les thrombophlébites de causes bucco-dentaires constituent également des indications formelles; c'est même un traitement d'urgence prescrit sans attendre les résultats de l'antibiogramme, en s'adressant de préférence aux antibiotiques majeurs.

Dans d'autres cas, continue-t-il, l'indication, pour être moins urgente, n'en est pas moins évidente. Il en est ainsi de certaines maladies spécifiques qui réclament un antibiotique de choix: les stomatites vésiculo-bulleuses, par exemple, et le pamphigus (auréomycine).

Vigneul parle aussi des indications relatives; elles sont nombreuses. Disons que l'usage des antibiotiques doit être pesé et discuté. On sera tenté de donner la préférence à la pénicilline associée ou non à la streptomycine ou à l'auréomycine et on pourra même se contenter dans certains cas de l'antibiothérapie locale.

Souvent la mycothérapie est inutile. Il en est ainsi, par exemple, de l'ostéophlegmon à évolution externe qui est un accident banal évoluant rapidement et favorablement: lorsque la dent causale est extraite, la collection est ouverte, il guérit du jour au lendemain (Iattes et Bataille).

Vigneul termine en disant que toute intervention en milieu septique ou infecté, doit être pratiquée sous couvert d'antibiotiques, de préférence la pénicilline, la streptomycine et la terramycine.

Dans la littérature, on rencontre des opinions qui sont plus spécifiques. Rovellstad¹⁶ rapporte que l'auréomycine s'est montrée très efficace dans le traitement de l'abcès alvéolaire aigu chez les enfants.

Comme conclusion, l'auteur dit que les abcès alvéolaires aigus sont rapidement atténués par l'usage précoce d'un antibiotique efficace et spécifique; qu'un drainage est rarement nécessaire, si l'antibiotique est administré assez tôt; que l'auréomycine est spécialement pratique et sûre pour le dentiste dans ces cas; que, s'il s'en sert raisonnablement, celui-ci ne doit pas avoir peur de la médication chimiothérapique en autant qu'il connaisse les avantages et les désavantages des agents qu'il emploie, leurs indications, leurs contre-indications et leur posologie.

Kutscher¹⁷, dans une revue de la littérature, rapporte les travaux de Mourfield et Banon qui ont évalué l'usage de cônes d'érythromycine en chirurgie buccale.

Chaque cône contient 5 mg. d'érythroglycoheptonate. Les auteurs rapportent que l'usage de ces cônes dans les alvéoles, après extractions, a réduit l'incidence des alvéolites et ou des cellulites de 1.18%, dans 917 extractions, en comparaison de 13.30%, dans 902 extractions du groupe-contrôle. On n'observa aucune réaction, soit locale ou générale, attribuable aux cônes d'érythromycine.

LES ANTIBIOTIQUES EN ENDODONTIE

La littérature ne mentionne pas l'emploi de la chimiothérapie en endodontie

comme mesure prophylactique. La prophylaxie n'a pas sa place en endodontie, parce que si le canal et l'apex d'une dent sont infectés, il faudra alors prendre des mesures thérapeutiques.

Une dévitalisation ou une biopulpectomie exige la stérilisation qui, d'après Degnan⁵, s'obtient par le débridement du canal; les antibiotiques sont alors inutiles.

La plupart des médicaments employés dans le traitement de canaux ont ceci de commun qu'ils manquent de désintoxiquer et de neutraliser les protéines qui inévitablement sont produites dans le processus de putréfaction¹⁸. De tels médicaments, continue l'auteur, n'ont pas de propriétés fixatrices et, par conséquent, aucune action sur les produits toxiques présents. La même lacune se constate pour la chaleur et les méthodes électrochimiques. On a raison de croire que la plus grande partie de la destruction qui se produit dans la région apicale est due à ces produits toxiques. Avec l'avènement des antibiotiques, on a cru posséder une méthode de contrôle des bactéries associées à la pulpe nécrotique.

Les cultures⁵ fournissent une si grande variété de microorganismes qu'aucun antibiotique en particulier ne peut être efficace. C'est pour cette raison que la pâte polyanbiotique de Grossman a été employée avec succès. Cette pâte contient un mélange de pénicilline, streptomycine, bacitracine et un antifongique (caprylate de sodium), le tout véhiculé par un liquide silicone. Cette médication de choix fut employée par plusieurs chercheurs avec diverses modifications. Grossman lui-même fit d'autres expériences.

Stephen Richard¹⁹ parle d'une pâte de Grossman dans laquelle la bacitracine est remplacée par du chloramphénicol. L'auteur affirme que la granulation étant réduite, la pâte obtient une consistance idéale pour être foulée au spiral. D'après Richard, le contrôle bactériologique à l'aide de pointes de papier, quoique théoriquement idéal, ne semble pas essentiel ou peu praticable dans un cabinet privé.

Il n'est pas nécessaire de connaître les bactéries responsables et, d'ailleurs, il serait difficile de les chercher à cause du large spectre des antibiotiques employés. Toutefois, un microbe resté captif dans la chambre pulpaire ou le canal radiculaire, ne vivrait pas longtemps après l'emploi de cette méthode, même si le caprylate de sodium laisse des doutes quant à son efficacité. Jusqu'à présent on n'en a rapporté aucun cas.

Depuis 10 ans, dit Grossman²⁰, on a cherché une formule nouvelle pour mieux traiter ces cas et on s'est tourné vers les antibiotiques. Même si la plupart des antibiotiques ne sont pas des irritants, il n'en reste pas moins qu'ils ne sont pas stables. Aussi, les antibiotiques bactéricides ont ordinairement un spectre très limité; par ailleurs, ceux qui ont un large spectre sont seulement bactériostatiques. Il y en a un, le sulfate de kanamycine (Kantrex) qui fait exception. Il fut trouvé par des chercheurs japonais, dont Umezawa, en 1957. La kanamycine est stable dans une solution aqueuse; elle est bactéricide à large spectre, agissant contre les staphylocoques résistants.

Grossman employa, à l'Université de Pennsylvanie et à son cabinet, la kanamycine en combinaison avec le caprylate de sodium ou du bromure domiphen (*Bradasol*) pour des traitements de canaux. Il eut des résultats démontrant que les fungicides étaient quelque peu irritants; c'est alors qu'il rechercha un autre agent pour remplacer les précédents et, finalement, il en arriva à une combinaison de kanamycine et de nifuroxime; ses résultats prouvèrent l'efficacité de ce mélange et sa parfaite tolérance par les tissus. A ma connaissance, continue-t-il, c'est la première fois que nous possédons un agent efficace et non-irritant pour les tissus périapicaux. Même si les résultats sont encourageants, il reste encore beaucoup de recherches à faire avant de recommander le mélange kanamycine-nifuroxime plutôt que la pâte antibiotique

qui a fait ses preuves et dont on se sert couramment.

La pâte de Grossman, nous dit Roberts¹⁸, désinfecte dans la grande majorité des cas, dans une ou deux séances, la pulpe nécrosée.

Bégaud¹¹ rapporte les résultats qu'ont obtenus certains auteurs avec la pénicilline, la streptomycine et la tyrothricine dans des cas de racines infectées. La pénicilline employée dans les traitements de racines infectées, dit Muhleman, pose en principe une condition essentielle: la sensibilité de la flore canaliculaire; mais nous savons que les microbes de la flore buccale sont sensibles à la pénicilline. En effet, Grossman ne trouve que 7% des germes résistants. Comme condition essentielle, il faut obtenir une concentration d'au moins 0.15 U.I. par c.c. Un grand nombre d'échecs sont attribués à une concentration insuffisante des solutions aqueuses. On préconise une suspension huileuse contenant 600,000 U.I. par c.c. de pénicilline.

La streptomycine est habituellement combinée à la pénicilline. Olander se sert de pénicilline cristalline et de phosphate de streptomycine préparée par mélange de 1,000 U.I. de pénicilline avec 5,000 U.I. de streptomycine. Grossman a employé la même combinaison en suspension huileuse avec d'excellents résultats.

La tyrothricine, moins bonne que les antibiotiques précédents, devait tenter les praticiens dans leurs efforts pour stériliser les canaux de racines infectées. A cause de son large spectre d'activité et de son pouvoir bactériostatique, bactéricide et bactériolytique, on pensait en faire le médicament de choix. Malheureusement, elle présente de redoutables défauts: elle est fortement hémolytique, insoluble dans l'eau d'où la nécessité de limiter son emploi à l'usage externe et en solution alcoolique.

On rapporte que Bender, en 1952, reprenant les idées de Grossman, fit une étude comparative sur 668 cas de racines infectées utilisant différents mélanges.

TABLEAU 4 Etude comparative de différents mélanges antibiotiques

Mélanges	Succès
1. Pénicilline aqueuse	70 %
2. Pénicilline huileuse	68 %
3. Streptomycine en solution propylène-glycol	73 %
4. Pénicilline et streptomycine en solution propylène-glycol	65 %
5. Pénicilline et streptomycine en solution huileuse	76 %
6. Streptomycine et chloramphénicol dans propylène-glycol	81 %
7. Streptomycine et chloramphénicol: solution de l'undécylénate de soude	96 %
8. Pénicilline — Streptomycine — Chloramphénicol en solution de caprylate de soude	97 %

Le traitement le moins efficace s'établit avec la pénicilline seule; le plus efficace est celui de la combinaison pénicilline, streptomycine, chloramphénicol dans une solution de caprylate de soude; cette solution reste stable et rend l'utilisation de la pénicilline possible chez les patients pénicillo-résistants.

On constate donc que l'usage local des antibiotiques dans le traitement des racines infectées constitue un progrès thérapeutique appréciable et nous avons l'espérance de pouvoir, un jour, maîtriser, grâce à la variété toujours accrue des antibiotiques, toutes les résistances aux micro-organismes.

LES ANTIBIOTIQUES EN PÉRIODONTIE

L'antibiothérapie s'applique aussi couramment en périodontie qu'en chirurgie et en endodontie.

On se sert⁵ de cette médication dans des cas de gingivite chronique et aiguë, de périodontite et de périodontose. Le premier pas à faire dans ces cas est un examen soigné et un diagnostic précis pour pouvoir appliquer une thérapie adéquate. Les antibiotiques ne pourront pas enlever le tartre, nettoyer une poche osseuse ou corriger une occlusion. Cependant, dans les cas de gingivite ulcéraire de Vincent à l'état aigu, il faut connaître les complications graves qui peuvent surgir, si le cas n'est pas traité ou traité

inadéquatement. Si le patient est faible, fait de la température, montre un compte leucocytaire élevé accompagné possiblement par lympho-adénite, il faut avoir recours aux antibiotiques. On emploie ordinairement la pénicilline V potassique à 400,000 U.I., trois fois par jour; s'il y a allergie à la pénicilline, on prescrit l'érythromycine, 500 mg. immédiatement, puis 500 mg., deux fois par jour. Le traitement local, i.e. irrigation, détartrage, ablation des tissus nécrosés, est un *primum*.

D'après Burket²¹, le traitement de la gingivostomatite ulcéro-nécrotique aiguë se divise en (1) le contrôle de la phase bactérienne; (2) l'élimination des facteurs prédisposants locaux et constitutionnels; (3) l'éducation du patient, i.e. des habitudes d'hygiène buccale et des visites fréquentes chez le dentiste. Les deux dernières phases du traitement sont les plus importantes. Il continue en disant que la plupart des antibiotiques ont été employés dans le traitement de cette maladie. Omata a montré que des tests "in vitro" ont prouvé que la pénicilline G est la plus effective dans le traitement de cette condition. Borish a écrit que l'aureomycine et la terramycine étaient équivalentes au point de vue efficacité.

La possibilité de réactions associées à l'usage de cette médication devrait être toujours considérée. Il n'est pas recommandé d'employer la pénicilline topique-

ment; une application topique d'antibiotiques, qui s'impose, devrait se faire avec la polymyxine, la néomycine ou la bacitracine; ces substances ne doivent pas être employées par voie parentérale.

Pour le traitement de l'infection de Vincent, à sa phase aiguë, Zubrow¹⁰ semble d'accord avec les autres auteurs pour prescrire la chimiothérapie dès que les symptômes de malaise, adénopathie, élévation de température et mal de gorge sont évidents. Cette thérapie doit aussi être continuée comme mesure prophylactique dans le stade initial. Médication de choix: la pénicilline-procaïne ou solution aqueuse de 600,000 U.I., cinq fois par jour, pour trois jours, est généralement suffisante. Si aucun symptôme de réactions allergiques ne se manifeste, on peut alors continuer par application topique.

Quoique Burket²¹ ne recommande pas d'employer la pénicilline topiquement, Glickman rapporte des expériences faites avec des losanges contenant de la pénicilline.

Une expérience clinique a été faite sur 155 cas d'inflammation gingivale aiguë. Tous les patients, sauf 10, ont absorbé des losanges contenant 1,000 unités de pénicilline à une heure et deux heures d'intervalle, durant sept jours. Le groupe-témoin de 10 a reçu des "placebos" sans pénicilline.

Sans autre traitement, on a compilé les résultats que voici: le groupe des dix, aucun résultat; pour les autres, on constata que la pénicilline avait atténué les symptômes subjectifs et objectifs de l'infection aiguë et des autres inflammations gingivales. L'effet le plus prononcé des losanges a été observé après 24 heures. Ils avaient contribué à diminuer la gravité de la périoronite aiguë, mais n'avaient produit aucun effet pour les stomatites aphteuses. L'inflammation gingivale aiguë diminuait dès l'apparition d'une réaction apparemment favorable au traitement par des losanges de pénicilline. Les effets de la pénicilline étaient limités aux aspects aigus de la maladie et non aux symptômes chroniques.

Goldman²³ préconise l'auréomycine pour en avoir obtenu de bons résultats surtout avec des patients résistant à la pénicilline.

P. Couturier¹ a utilisé avec succès la spiramycine (*Rovamycine*) dans de nombreux états pyorrhéiques. En règle générale, la médication est prescrite comme suit: trois cures de quinze jours consécutifs chacune, espacées de un à plusieurs mois, la dose quotidienne usuelle étant de quatre comprimés de 250 mg. De concert avec l'antibiothérapie, des traitements locaux de courte durée sont institués (dé-tartrage, massage hydraulique), mais s'ils purent contribuer à l'amélioration de l'état gingivo-dentaire, l'auteur estime que le traitement ambulatoire par la spiramycine a été déterminant "dans la constance et la stabilité des heureux résultats observés". La médication se révéla de surcroît parfaitement tolérée. On ne connaît pas de contre-indication à l'emploi de la spiramycine; il est à noter que cet antibiotique peut être prescrit dès le plus jeune âge.

Zubrow¹⁰ nous dit que les micro-organismes responsables de la périoronite sont souvent les mêmes que ceux rencontrés dans l'infection de Vincent. La médication de choix sera donc la pénicilline, à raison de 400,000 U.I., associée à la streptomycine 0.5 m.g., une à deux fois par jour. La streptomycine permet un synergisme et un spectre plus large. La tétracycline peut aussi être employée dans ces cas.

Kutscher¹⁷, dans un article récent, décrit des expériences faites sur les infections d'origine dentaire avec paquets enduits d'antibiotique: "... 51 patients présentant tous des infections d'origine dentaire ont été traités avec de l'albamyne (novobiocine sodique) en dose de 500 mg. par jour, durant 1½ à 4 jours au maximum." Le lendemain, 90% des patients accusent des résultats bons ou passables. Il conclut donc que ce médicament se compare aux autres antibiotiques employés en dentisterie. Cependant, l'auteur

ajoute que la novobiocine ne doit être employée que dans les cas où les autres antibiotiques n'ont pas réussi ou lorsqu'on suspecte la présence de staphylocoques.

Le même auteur a fait aussi une expérience avec la bacitracine. 200 patients souffraient de gingivite et périodontite nécessitant une gingivectomie; 100 cas furent traités avec une pâte contenant de la bacitracine dans le paquetage et les autres cas avec un paquetage sans antibiotique. Il y eut guérison complète pour tous sans aucune réaction allergique; cependant, dans le groupe bacitracine, 83% des patients n'éprouvent pas d'odeur ou de goût déplaisants; dans l'autre groupe, 25% ont le palais sensible et 58% ont une odeur et un goût déplaisants.

Une autre expérience a été entreprise par le même auteur: 50% des clapiers d'une même bouche sont couverts de paquetages à la bacitracine et 50% avec pansements ordinaires: groupe 1 démontre des dents propres et sans débris tandis que groupe 2 démontre des dents pas aussi propres et avec débris.

Kutscher, fort de ces expériences, donne 6 raisons pour le choix de la bacitracine en périodontie:

- (1) produit rarement une sensibilité après des doses répétées;
- (2) pas inactivée par les enzymes;
- (3) pas inhibée par les organismes produisant de la pénicillinase;
- (4) est bactéricide et bactériostatique;
- (5) antibiotique à large spectre;
- (6) pas inhibée par les tissus nécrotiques, le pus, les exudats, les sécrétions ou le sérum sanguin.

La terramycine a aussi attiré l'attention de Fraleigh²⁴. La terramycine, selon cet auteur, a son utilité dans son application topique sur les gencives après gingivectomie. Il rapporte que 50 patients ayant subi une gingivectomie ont été traités avec des pansements chirurgicaux à la terramycine; 12 d'entre eux ont eu une réaction allergique durant la période de traitement; et 4 des 12 ont eu des réactions plus prononcées. Ces résultats sont quand même très encourageants, car ils

démontrent que ces pansements à la terramycine rendent le patient plus confortable, éliminent toute odeur et goût déplaisants et abrègent le temps de guérison; l'épithélium se forme plus rapidement à l'intérieur de la plaie.

On a aussi démontré que la terramycine est très efficace dans un rince-bouche comme mesure préventive. Stout¹³ nous dit que c'est une méthode rapide, efficace, non-toxique et tolérée par les tissus. Dans plus de 60 cas, qui ont fait usage de la terramycine comme rince-bouche, on rapporte un seul cas de glossite. L'effet analgésique rapide de la terramycine est remarquable et très apprécié par les patients.

La terramycine en rince-bouche est effective contre les gram⁺, diplococci, staphylo et strepto viridans et hémolitique. Les patients sont grandement soulagés de la stomatite gingivale et membraneuse après 12 à 24 heures. L'infection se contrôle rapidement, la gingivostomatite devient asymptomatique, dans 3 à 4 jours et la membrano-stomatite, dans 5 à 6 jours. On a aussi traité des cas de brûlure chimique et gingivite ulcéraire; l'effet analgésique fut remarqué dans les 24 heures et la guérison accélérée sans complication d'infection secondaire.

LES DENTIFRICES À BASE DE PÉNICILLINE

Hill et Kniesner¹², après des recherches faites chez les animaux avec de très bons résultats, firent une expérience chez des enfants. Mais les résultats ne purent être contrôlés avec exactitude, car les garçons ne suivaient pas tous les instructions de brosser leurs dents trois fois par jour. Les auteurs pensent que des résultats différents peuvent être obtenus avec un emploi plus régulier de poudre dentifrice à base de pénicilline, comme le démontre l'expérience faite avec 13 étudiants en dentisterie ayant un quotient de carie très élevé. Le compte de lactobacilles de ces 13 étudiants fut abaissé d'une façon spectaculaire et seulement une carie s'est développée durant 9 mois.

Zander²⁵, dans une étude sérieuse faite à Walpole, Massachusetts chez des enfants

entre 6 et 14 ans, montre que l'emploi quotidien de dentifrice à base de pénicilline réduit considérablement l'incidence de la carie dentaire chez les jeunes. Un petit nombre a eu des réactions allergiques à pénicilline avec de légers symptômes qui sont disparus dès que le dentifrice en question fut supprimé.

DISCUSSION

Les antibiotiques sont aujourd'hui des médicaments qui, même en grand nombre, sont en voie d'évolution constante. On prévoit que les recherches présentement en cours permettront aux dentistes d'ici quelques années de se servir avec encore plus d'efficacité d'un médicament déjà révolutionnaire.

Apparemment, les auteurs et les chercheurs ne semblent pas toujours d'accord quant à l'usage spécifique de l'un ou de l'autre agent. En effet, chaque individu répond à sa manière à un traitement spécifique, en regard de son état physique ou de traitements antérieurs aux antibiotiques.

Les antibiotiques ont été jusqu'à présent une aide dans le traitement des infections, mais il ne faudra jamais essayer de s'en servir comme substitut aux techniques aseptiques.

En chirurgie, l'antibiotique est utilisé pour prévenir des complications graves chez certains patients montrant des conditions constitutionnelles anormales, comme le diabète, le rhumatisme ou les effections hémolitiques; mais l'aseptie sera encore, même avec l'usage des antibiotiques, la première précaution à prendre pour éviter toute complication post-opératoire.

Le contrôle des bactéries, en endodontie, repose sur le débridement du canal au moyen d'instruments stériles et par une technique adéquate.

La même conception se répète en périodontie, parce que les facteurs locaux sont les premiers responsables des paradontopathies. L'antibiotique est un adjuvant dans le traitement des infections, mais il

ne déloge pas ce tartre, il ne nettoie pas une poche osseuse, il ne corrige pas une occlusion fausse.

Pour traiter une infection aiguë, l'antibiotique est le médicament de choix, mais non dans les infections en stade chronique. Un antibiogramme est indiqué avant l'emploi des antibiotiques, mais cette épreuve n'est pas toujours facile; souvent, on doit se contenter de prescrire un antibiotique à large spectre.

La cause des troubles, réactions allergiques ou résistance, est due au fait que l'on ne donne pas toujours la dose suffisante.

Si l'on veut traiter par l'antibiothérapie, il faut être renseigné pour savoir comment le faire.

CONCLUSION

1. Les médecins et les dentistes auraient trop abusé des antibiotiques⁵.

2. Les antibiotiques n'ont jamais été et ne seront jamais un substitut à un diagnostic intelligent, à la chirurgie et aux procédures opératoires méticuleuses⁵.

3. Si la thérapie antibiotique est indiquée, il faut la donner en forte dose et rapidement pour éviter un échec thérapeutique¹.

4. S'il s'en sert raisonnablement, le dentiste ne doit pas avoir peur de la médication chimiothérapique en autant qu'il connaisse les avantages et désavantages des différents agents qu'il emploie, les indications et contre-indications ainsi que la posologie¹⁶.

5. Les antibiotiques ne sont pas agents inoffensifs et leurs complications sont souvent plus graves que la maladie qu'on veut traiter⁵.

6. Les antibiotiques sont des adjuvants utiles dans les infections, mais ils ne sont pas des substituts aux techniques aseptiques²⁶.

SUMMARY

In this article, general consideration is given to the use of antibiotics in dentistry. The author has reviewed the literature dealing with the specific indications for

antibiotic therapy in oral surgery, endodontics and periodontics and he concludes with a brief discussion of the use of antibiotics in tooth powders and pastes for the prevention of dental caries.

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LES ACTUALITES DENTAIRES

Le Canada

La faculté dentaire de l'Université d'Alberta occupe son nouvel édifice. — L'inauguration officielle du nouvel édifice de la faculté dentaire de l'Université d'Alberta a eu lieu le 2 juin, à 10.00 hrs a.m. Une cérémonie spéciale a groupé, dans l'après-midi, les médecins et les dentistes à l'Université d'Alberta.

L'installation de la nouvelle faculté dentaire dans l'Edifice des Sciences Médicales a coûté quelques \$375,000, sans compter les frais de construction. Le nombre des étudiants par classe monte graduellement de 30 à 50. Il y a actuellement 46 étudiants en première année.

La clinique générale compte 54 fauteuils; il y a d'autres fauteuils qui sont utilisés pour

des démonstrations, un autre groupe pour la clinique d'orthodontie et de pédodontie, qui a une salle d'attente particulière, un dispensaire et un laboratoire. La direction de la faculté se propose d'organiser des cours gradués. Le corps professoral compte sept plein-temps et 28 professeurs à temps partiel. On ajoutera à ce nombre au moins quatre autres plein-temps pour l'année académique 1961-62.

Le président sortant-de-charge de l'A.D.C., le docteur W. G. McIntosh, et le docteur James Zimmerman, de Calgary, représentaient l'Association aux cérémonies officielles d'inauguration.

Plus les auxiliaires sont nombreuses, plus les services dentaires sont nombreux. — La question des auxiliaires est à l'ordre du jour. C'est pourquoi on publie de nouveau le tableau ci-après, qui a été compilé par le Bureau des recherches économiques de l'A.D.C. pour le Comité des services dentaires qui se réunissait récemment.

"Les relevés de l'économie de l'exercice dentaire de 1953 et de 1958, compilés par l'Association dentaire canadienne, fournissaient des chiffres au sujet des revenus bruts en rapport avec le nombre des employés du dentiste. Ces chiffres montraient que les revenus bruts augmentaient en relation avec l'augmentation du nombre des employés."

"Les revenus bruts indiquent en gros la

"La base qui sert à compiler les revenus bruts (par conséquent le taux de la productivité) est le dentiste qui n'a pas d'employé. Son chiffre d'index est 100. Le dentiste qui a 2.5 et 3.4 employés a, en 1958, un index de 248. Cela signifie probablement qu'il a prodigué deux fois et demie plus de services de que le dentiste qui travaille seul."

"Nous pouvons, à la lumière des relevés de 1953 et de 1958, estimer le pourcentage des dentistes ayant des nombres différents d'employés. Nous pouvons alors, en multipliant les pourcentages des dentistes dans chaque groupe dentiste-employés, arriver à un index indiquant la production de tous les dentistes."

"L'index de la production totale, si tous les dentistes avaient exercé seuls, aurait été

Nombre des employés	1953		1958	
	Moyenne des revenus bruts	Index	Moyenne des revenus bruts	Index
0	\$ 8,570	100	\$10,758	100
0.1-0.4	11,756	137	15,591	145
0.5-1.4	14,922	174	19,652	183
1.5-2.4	19,364	226	25,313	235
2.5-3.4	20,414	238	26,668	248
3.5 ou plus	25,319	295	27,028	251

productivité du dentiste. Si, pour les besoins de l'analyse, nous assumons que le dentiste qui a plusieurs employés ne perçoit pas des honoraires plus élevés, l'augmentation de ses

de 100, en 1953 et en 1958. L'index a été de 157 pour 1953 et de 177 pour 1958, parce que les dentistes employant des auxiliaires ont pu prodiguer plus de traitements. On peut donc

Nombre des employés	1953		1958	
	% des dentistes qui ont des employés	Calcul de l'index de la production	% des dentistes qui ont des employés	Calcul de l'index de la production
0	19.1	19.1	12.9	12.9
0.1-0.4	18.3	25.1	3.4	4.9
0.5-1.4	55.1	95.9	72.1	131.9
1.5-2.4	7.5	16.0	11.6	27.3
2.5-3.4	...	...	...	...
3.5 ou plus	...	...	...	...
tous	100.0	157.0	100.0	177.0

revenus doit être causée par l'augmentation des services qu'il rend."

"Le tableau ci-après donne la moyenne et les revenus bruts en rapport avec le nombre des employés.

conclure que l'emploi d'auxiliaires a fait hausser de 57 de plus la production en 1953 et de 77 de plus, celle de 1958, qu'elles n'auraient été si tous les dentistes avaient travaillé seuls."

Réunion du Comité des services dentaires. — Le docteur P. G. Anderson a présidé une réunion des membres du Comité des Services dentaires qui eut lieu récemment au secrétariat de l'Association. Le comité a fait une revue des réalisations de plusieurs provinces dans le domaine de l'assurance-santé. Dans son rapport au Conseil des Gouverneurs, le président a fait un résumé des items qui soulevèrent un intérêt particulier.

Le comité s'est prononcé officiellement en faveur du principe qui veut que des professionnels reçoivent la même rémunération pour des postes leur imposant une responsabilité équivalente. Des délégués de la Section d'orthodontie de l'A.D.C. ont fait part de leurs recherches sur les traitements d'orthodontie au sein d'un système de pré-paiement. Ces recherches ne sont pas terminées.

On a rapporté que deux tentatives faites auprès de groupes d'employés pour les intéresser à des systèmes de traitements basés sur le plan-modèle adopté l'an dernier, n'ont pas eu de succès. Le sous-comité chargé de ce plan-modèle doit continuer à l'étudier. Des sous-comités travaillent aussi sur les principes qui doivent guider l'établissement de listes d'honoraires et de pratiques de groupes.

La dentisterie en vedette. — La dentisterie est en vedette. En effet, le Bureau des renseignements au public de l'Association dentaire canadienne a reçu en plus grand nombre des découpages de journaux qui traitaient de questions dentaires. Le nombre de ces découpages a doublé au cours des deux derniers mois. Le Bureau reçoit en moyenne 500 découpages par mois, mais, durant mars et avril, le total a dépassé 1,000.

Le sujet le plus populaire et le plus discuté touche la fluoruration. On attribue la cause de cette augmentation des articles de journaux au fait que le comité d'enquête sur la fluoruration d'Ontario ait remis récemment son rapport. Ces extraits de journaux couvrent une grande variété de sujets, depuis l'annonce de films projetés aux groupes de parents et d'élèves des écoles jusqu'à la législation adoptée ces temps-ci en Alberta au sujet des techniciens.

Des articles ont paru, à part des journaux, dans des revues telles que Maclean's, Châtelaine, Time et Financial Post. La radio et la télévision ont aussi consacré beaucoup de temps aux nouvelles et aux messages touchant la dentisterie, tout particulièrement durant la semaine nationale de santé, en mars dernier.

Conférences du Congrès enregistrées sur bandes sonores. — On a enregistré en plusieurs copies sur des bandes sonores les communications présentées par les principaux conférenciers du congrès de l'Association dentaire canadienne, à Ottawa.

Ces bandes peuvent être empruntées de la bibliothèque de l'A.D.C. On peut aussi les acheter au prix de \$10.00 chacune.

La liste de ces rubans mis à la disposition des sociétés et des congrès s'établit ainsi:

"Les lésions blastomatoïdes — leur dépistage et leur traitement" — Dr D. A. Kerr

"Les effectifs de la profession dentaire au Canada" — Drs McIntosh, Ellis, McCutcheon, Neilson, Dunn

"Les stomatites traumatiques" — Dr D. A. Kerr

"Les symptômes des maladies du sang dans la bouche" — Dr D. A. Kerr

"L'application des principes d'orthodontie dans l'exercice courant et leurs rapports avec la prévention" — Conférence du Mémorial Grieve — Dr J. A. Salzmann

"Attitude moderne en face des restaurations dentaires" — Dr M. R. Markley

"Les causes de la corrosion des obturations en amalgame et étude sur des façons plus modernes de préparer les cavités" — Dr Miles R. Markley.

QUÉBEC

La Société dentaire de Montréal. — Lors de sa dernière réunion mensuelle, tenue le 16 mai 1961, la Société dentaire de Montréal a élu son nouvel exécutif pour l'année 1961-62. Il se compose ainsi: président: Claude Vachon; 1er vice-président, Florent Thériault; 2e vice-président, Jean Guimond; trésorier: Paul Manseau; secrétaire, Roger Grégoire; assistant-secrétaire: Jacques Fiset; bibliothécaire: Guy Benoit; conseillers: Claude Madore, André Dalpé, Bruno Maunier, J. Latour; aviseur; Jacques Bélanger. Le conférencier invité était le docteur Jean-Paul Lussier, vice-doyen de la faculté de chirurgie dentaire de l'Université de Montréal qui traita des "Principes d'enseignement dentaire". Cette causerie fut vivement goûtée de l'assistance. Le tournoi de golf de la Société dentaire de Montréal aura lieu, cette année, le 30 août (mercredi) au Lachute Golf and Country Club.

Encore cette fois, le docteur Roger Grégoire est chargé de l'organisation du tournoi. Comme par les années passées, on s'attend à une grande participation de dentistes à cet évènement sportif.

Les trophées et les prix seront distribués dans la grande salle à manger du Club, à la fin du buffet traditionnel.

Le comité désire souligner l'importance pour les dentistes de former d'avance leurs "foursomes" et de se réserver une heure de départ de 10.00 hrs a.m. à 2.00 hrs p.m., en communiquant avec le docteur Roger Grégoire (CL 9-9969) ou à 4521 rue d'Orléans, jusqu'au 28 août inclusivement.

Le Corps dentaire royal canadien

NOUVELLES DU QUARTIER-GENERAL

Nouveau Titre.—Le ministre de la Défense nationale a donné l'autorisation de remplacer le titre de "Directeur général des Services dentaires" par celui de "Directeur général des Services dentaires des Forces armées du Canada". Le nouveau titre est destiné à mettre l'accent sur le caractère interarmes du Corps dentaire, surtout en ce qui a trait à ses relations avec les organismes qui ne font pas partie du ministère de la Défense nationale.

Le brigadier Baird assiste à une réunion du C.D.R.C.—Le brigadier K. M. Baird, Directeur général des Services dentaires des Forces armées du Canada, s'est rendu à Toronto, le 10 avril, pour assister à la Conférence sur le rôle du personnel auxiliaire.

PROMOTIONS, RETRAITES, AFFECTATIONS

Le Quartier-général de l'Armée annonce la promotion des capitaines A. L. Kelland et A. T. Hinch au grade de major à compter du 1er avril et du 16 mai respectivement.

Le major Kelland est né à North Sydney (N.-E.) et a fait ses études primaires à Canso et à Halifax. Il a fréquenté les Universités Saint-François-Xavier et Dalhousie et est titulaire des diplômes de B.A., B.Ed., et D.D.S. Il s'est enrôlé dans le Corps dentaire en septembre 1953, a été promu capitaine et a été affecté à la 12e Compagnie dentaire (Région militaire de l'Est). Le major Kelland accomplit actuellement une période de service de trois ans en France où l'accompagne sa femme et ses deux enfants. A son retour au Canada, cet été, il sera affecté au quartier-général de la Région militaire du Centre à Oakville (Ont.).

Le major Hinch est né à Halifax et il a fréquenté l'Université Dalhousie. Après avoir obtenu son diplôme en 1947, il s'est installé à son propre compte à Frédéricton où il est demeuré jusqu'à son enrôlement dans le Corps dentaire en janvier 1956. Depuis lors, il a servi dans la 12e Compagnie dentaire (Région militaire de l'Est) et il se trouve actuellement en France où il fait partie de la 35e Unité dentaire de campagne. Le major Hinch est marié et a un enfant.

Le Quartier-général de l'Armée annonce que le major A. R. Ramsay, C.D., a pris sa retraite le 15 mai 1961.

Le major Ramsay est né à Neepawa (Man.) où il a terminé ses études secondaires en 1929. Il a suivi un cours d'enseignement de deux ans à l'Ecole normale du Manitoba et il a reçu son diplôme en 1931. Pendant la deuxième guerre mondiale, il a servi dans l'Aviation royale du Canada d'octobre 1940 à septembre 1945, date à laquelle il est entré à l'Université McGill qui lui a décerné son doctorat en chirurgie dentaire en 1949. Après avoir reçu son diplôme, il s'est enrôlé dans le Corps dentaire et il a servi dans les Régions de l'Est et du Québec, de même qu'en Corée et en mer, à bord du *Bonaventure*. Avant de prendre sa retraite, il exerçait ses fonctions à Montréal, où il demeure avec sa femme et son enfant.

Le capitaine B.-A. Gaudet est revenu au Canada en mai après avoir servi pendant un an auprès des Forces des Nations Unies au Moyen-Orient. Il a reçu une affectation à Québec.

DES OFFICIERS DU CORPS DENTAIRE SUIVENT DES COURS

Les officiers dentistes ci-après ont dernièrement suivi des cours. Ce sont:

Le major D. E. McDermott, un cours sur les couronnes et ponts, au U.S. Navy Dental School de Bethesda, Maryland.

Le capitaine J. T. Marshall, un cours sur le matériel à grande vitesse au U.S. Navy Dental School.

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JOURNAL

The Full Mandibular Subperiosteal Implant Denture

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The full subject of implant dentures is a very broad one indeed and certainly cannot be discussed in detail within the confines of a brief article. It is necessary therefore to limit this article to the subject of the full mandibular subperiosteal implant denture. Even this subject is too broad to permit discussion of the intricate details of technique, etc. Only information of a general background nature for this type of implant denture is here-with presented.

Before proceeding further it is well to refer to the following classification of the various types of dental implants derived from Gershkoff and Goldberg.¹

1. *Intra-osseous dental implant.*—This is a bone transfixation to obtain a canal traversed by a metal tube serving as a dental support (Figure 1).

2. *Endo-osseous dental implant.*—This is the insertion into a natural or an artificial socket of a pivot, a screw, or a cage, to serve as a root or abutment (Figure 2).

3. *Subperiosteal dental implant.*—This is a one-piece mesh casting which is inserted directly onto the bone and under the mucoperiosteum. Part of this casting consists of one or more projections (each consisting of a post and an abutment)

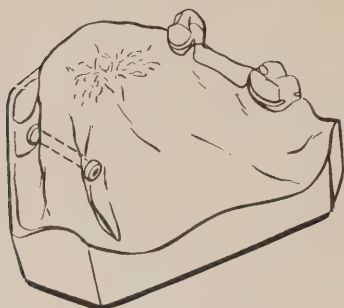


FIGURE 1

An intra-osseous dental implant. (Redrawn after Skinner, from Gershkoff and Goldberg's "Implant Dentures", courtesy J. B. Lippincott Co.)

which protrude through the oral mucosa into the oral cavity. These abutments support one or more artificial teeth, whatever the case may be. An offshoot perhaps of the subperiosteal implant is the magnetic implant which is buried within a previously prepared bony crypt and is completely covered with mucoperiosteum (Figure 3).

All three types of implant dentures may be used in the mandible or maxilla, or both, and they can be designed to replace one or more teeth.

For practical purposes, through experimentation and clinical evaluation, the full mandibular subperiosteal implant denture with the exception of the magnetic implant has had a greater measure of success than any of the other types of implants, including the other varieties of subperiosteal implants (e.g. full maxillary subperiosteal implant, unilateral subperiosteal implant). Also, the need for the full mandibular subperiosteal implant is far greater than for other implants, e.g. as a replacement for an extremely unstable full lower denture. Single or multiple teeth (other than a full arch)

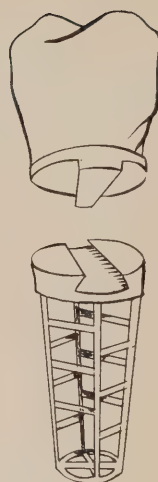


FIGURE 2

An endo-osseous dental implant consisting of an iridoplatinum basketlike mounting root. (Redrawn after Greenfield, from Gershkoff and Goldberg's "Implant Dentures", courtesy J. B. Lippincott Co.)

can be replaced more practically by orthodox means such as partial dentures and fixed bridges. It should be mentioned that the magnetic implant is also used in the case of the unstable lower denture but that the results obtained are usually not nearly as effective as those obtained through the use of the full mandibular subperiosteal implant.

HISTORY OF DENTAL IMPLANTS

The history of the dental implant is of interest. The first specimen of a dental implant ever recorded is in the Peabody Museum at Harvard University. In this particular case the lower left lateral incisor is replaced by an artificial tooth carved from stone. The calculus in the area indicates that the replacement was

worn for some time. The early Egyptians are reported to have used ivory pegs inserted into tooth sockets to replace natural teeth. However, it was not until the middle of the nineteenth century that implants became more commonly used as replacements for natural teeth. Dentists of that time used various types of material to fashion artificial roots and crowns. For the most part these implants were used to replace single teeth only, and in most cases the implants were failures. In 1943 S. A. Dahl of Stockholm, Sweden, inserted the first full mandibular and maxillary subperiosteal implant dentures. Dahl was the first dentist whose results for the most part were consistently successful. It was left to Gershkoff and Goldberg of New Haven, Connecticut, to make certain modifications to Dahl's design and technique resulting in the modern subperiosteal dental implant and the two-stage operative technique in use today.

INDICATIONS AND CONTRAINDICATIONS

A conservative approach is to be desired. An abnormally flat mandibular ridge or distorted ridge (as in mouth mutilations) is a requisite for the prospective implant patient. Also, such a patient should, if at all possible, have made an honest and prolonged attempt to master the conventional full lower denture. The patient should be free of any debilitating illness which would have an unfavourable effect on the result. It is only fair that the dentist advise the patient of the advantages and disadvantages of an implant procedure thus mentally preparing the patient for any uncertainties. It would seem unjust and perhaps bordering on the unethical to subject a patient to unnecessary trauma and discomfort, let alone expense, if other means of rehabilitation are successful.

One must not underestimate the care and skill required to treat an implant patient. The dentist attempting such a case should at least have taken a post-



FIGURE 3

A subperiosteal dental implant substructure and superstructure frame. Four screw hole openings are visible at the junction of the peripheral border strut and four of the accessory struts of the substructure. The implant posts are the constricted portions or necks penetrating the muco-periosteum, connecting the implant framework to the four abutments. The abutments protrude through the mucosa to support and retain the superstructure. (A) molar abutment coping with clasp; (B) rigid connecting bars; (C) cuspid abutment coping with clasp. (From Gershkoff and Goldberg's "Implant Dentures", courtesy J. B. Lippincott Co.)

graduate course in implant dentures such as the one offered at Tufts University School of Dental Medicine, and have read many of the available articles on the subject. Another requisite on the part of the dentist is a definite interest and flair for oral surgery and prosthodontics. The dentist, in the full interest of the patient, should seek the co-operation and advice of the patient's physician. There are several stages leading to the completion and insertion of the implant and any error at any of these stages could prejudice the end result. We are fortunate in having at our disposal many drugs, including local anaesthetics, which can ease the operative and postoperative discomfort of the

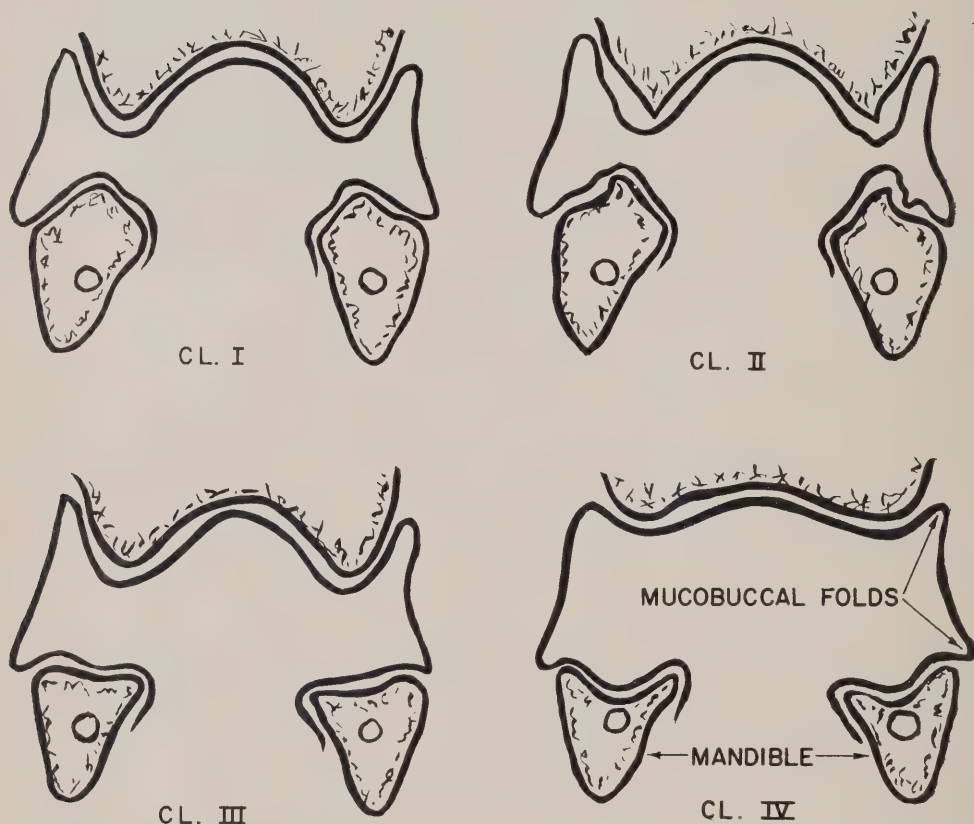


FIGURE 4

Frontal plane classification of the edentulous mouth. Cross section showing relationship of maxilla to mandible. Class I, normal maxillary ridge in relationship to normal mandibular ridge. Class II, relationship of knife-like maxillary ridge to knife-like mandibular ridge. Class III, normal maxillary ridge in relationship to atrophied mandibular ridge not involving mandibular canal. Class IV, atrophied maxillary ridge in relationship to mandibular ridge with advanced atrophy involving contents of mandibular canal. (From Gershkoff and Goldberg's "Implant Dentures", courtesy J. B. Lippincott Co.)

patient and also decrease the possibility of complications during and after surgical procedures. With proper combination of technique and drugs the surgical procedures for implants can be performed in the modern dental office.

For conventional and implant denture purposes Gershkoff and Goldberg classify the edentulous mouth into four groups as illustrated by the diagrams in Figure 4.

Class 1.—The maxillary and mandibular ridges are well formed and contoured. The mucosa is pink, healthy and firm. All normal anatomical landmarks are clearly defined. Palpation of tissue elicits no painful response. This type is well suited for conventional denture construction.

Class 2.—The maxillary and mandibular ridges are high but sharp. Ridge resorption generally has taken place from buccal and labial. The mucosa is flabby and hypertrophied, freely movable over knifelike ridges. The mucosa may be thin in certain areas, and the application of pressure may be disagreeable and produce pain. Usually an alveolectomy is indicated, and the patient may be able to tolerate a conventional denture. An implant is possible in this category, but caution is advised because an alveolectomy and bone impression should not be attempted at the same time. Sufficient time should be allowed to elapse after alveolectomy for bone resorption to occur.

Class 3.—The maxillary ridge is well formed, and the mucosa is normal. The mandibular ridge is well resorbed and it may or may not have some remnants of spiny ridge anteriorly. The mental foramina start to assume a superficial position. Patients usually tolerate a conventional full upper denture with comfort but cannot tolerate a lower denture due to lack of retention. The mandibular mucosa may present sore spots caused by the denture. This category is well suited for an implant denture.

Class 4.—Progressive resorption and atrophy of the mandibular ridge are evident with the genial tubercles well above the level of the residual ridge, and the mental foramina toward the top of the ridge. Unilateral or bilateral dehiscant canals may be present. The patient may complain of some paraesthesia of the lip. The mucosa is usually thin and firm. An implant denture is a necessity for patients in this category. So much resorption has taken place that the mandible is very thin.

DESCRIPTION OF THE APPLIANCE

The modern full mandibular subperiosteal implant denture is composed of two main parts; (a) the substructure and (b) the superstructure. The material in both parts is Vitallium®, used mainly because of its compatibility with human tissue.

The substructure is designed in order that the periosteum and fibrous connective tissue will proliferate between the struts of the casting so that the casting will eventually be firmly anchored in place. The substructure is divided into (1) the peripheral border strut, (2) primary struts which support the four posts which in turn support the abutments, and (3) accessory struts for added strength. Also, the substructure, with the exception of the abutments, has a satin finish produced by a special sandblasting procedure. This satin finish allows for greater adherence of the mucoperiosteal tissues. The abutments are within the oral cavity itself and they are polished to permit greater ease of insertion and removal of the superstructure and to minimize the collection of food which will not tend to adhere to a polished surface. Design of the substructure is most important. It is designed so that it will cover certain specific areas of the mandible, providing a minimum of torque, and supporting normal masticatory actions without setting up any osteoclastic action within the underlying bone.

The superstructure is composed of (1) a coping clasp arrangement (four in num-

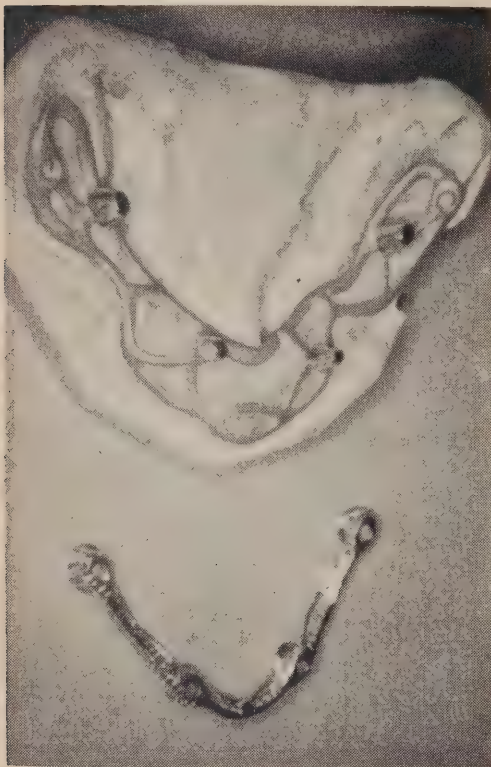


FIGURE 5

Substructure and superstructure of a subperiosteal dental implant on a model.

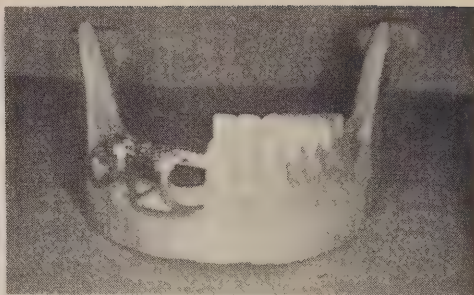


FIGURE 6

Cross section of a subperiosteal dental implant on a plastic visual aid model.



FIGURE 7

Subperiosteal dental implant in the mouth with implant posts protruding into the oral cavity

ber) to fit over the respective abutments of the substructure. Joining these four coping clasps are (2) connecting bars (three in number), so that the whole superstructure becomes one strong unit. The superstructure with the exception of the connecting bars is highly polished. The connecting bars are roughened and serrated to allow adherence of the plastic matrix supporting the artificial teeth (Figures 5, 6 and 7).

TECHNIQUE

Briefly, the technique for construction of the full mandibular subperiosteal implant denture is as follows. After careful evaluation of the patient and after consultation with the patient's physician full mandibular and maxillary impressions are taken, occlusal rims are constructed and correct vertical and centric relationships are established as in constructing

conventional dentures. The patient then returns for the first surgical operation. A sedative and drugs to control salivary secretion, bleeding and swelling are administered. The mandible is anaesthetized (Lidocaine* is the anaesthetic of choice) and the depth of the mucosa in the prospective abutment areas is established. These measurements will indicate the prospective lengths of the posts in the implant substructure. An incision is then made from retromolar area to retromolar area along the alveolar crest and through the mucoperiosteum. Accessory incisions are made in the retromolar areas and in the midline. The mucoperiosteum is retracted so that the external oblique lines, the mental foramina, the mylohyoid ridges, the undercut areas in the lingual of the bicuspid regions, the mental protuberance, and the genial tubercles are adequately exposed. An impression of the exposed mandible is then taken, being careful to include in the impression all of the above-mentioned anatomical landmarks. The impression is usually taken with a low-fusing compound which is lined with one of the rubber base impression materials. After taking this surgical impression, a surgical bite registration is made. To establish the surgical bite registration the notched occlusal rims originally used to establish the vertical and centric relationships are used. The lower rim is trimmed so that it will easily fit onto the exposed mandible. This occlusal rim is then lined with softened bees wax, both rims are inserted and the patient is requested to close so that the notches mesh properly, thus establishing the same relationships as before. After adequate suturing and instructions for postoperative care the patient is dismissed. A model is then made from the impression.

The dentist designs the prospective appliance on this model. The model, the occlusal rims, and all pertinent measurements and information are then sent to a dental laboratory equipped to handle this

particular type of casting. The waxing of the substructure and superstructure is done in the laboratory followed by the casting. The resultant castings are radiographed to determine the existence of any flaws before being returned to the dentist.

The patient returns some three to six weeks after the first operation to undergo the second operation for insertion of the substructure. Using the same local anaesthesia and premedication as before the mucoperiosteum is similarly retracted and the substructure is inserted firmly into place and in such manner that no torque exists. Vitallium screws may or may not be required to hold the implant to the mandible. There are two schools of thought on the use of these screws and the individual dentist must decide for himself. Again, after suitable suturing and postoperative care instruction the patient is dismissed.

If after three to eight weeks healing has proceeded normally, the superstructure is tried in place. Providing no binding or torque exists between the substructure and superstructure the latter is then completed as follows. The superstructure is placed upon the abutments of the substructure. A "pickup" impression is taken, a model poured and a wax bite block is built around the framework of the superstructure. After establishing vertical and centric relationship the desired artificial teeth (usually acrylic) are mounted in wax on the superstructure for a try-in. The desired aesthetic effect having been established, the appliance is completed by means of a slow-curing plastic to minimize any possible distortion of the superstructure. The patient is instructed in the care of the complete implant with emphasis directed on oral hygiene, particularly in the posterior regions.

The mandible is radiographed within two months; again in another six months; and possibly a year later.

CONCLUSION

The full mandibular subperiosteal implant denture now has a proper place in

* The author uses *Xylocaine*, Astra.

dental practice. As time progresses Canadian dentists will lean more and more on the use of implants as a mode of treatment for certain specific conditions. The results obtained from a successful dental implant can be gratifying both to the patient and dentist alike.

RÉSUMÉ

L'auteur expose les indications et les contre-indications des implants sous-périostés de la mandibule. Un implant est nécessaire chez les patients dont la crête est complètement résorbée d'une façon anormale ou dont la crête est déformée. Le patient, si possible, devrait avoir persisté honnêtement à porter une prothèse normale du maxillaire inférieur. Il devrait aussi être exempt de toute maladie qui pourrait compromettre les résultats.

L'appareil est constitué de deux parties: une partie à l'extérieur des tissus l'autre sous les tissus. La partie enfouie dans les tissus comprend le montant périphérique, le montant de fond qui soutient les quatre tiges supportant les piles et les montants accessoires. La partie extérieure comprend quatre crochets qui s'ajustent sur les piles de la partie sous-périostée. Trois barres s'attachent aux quatre crochets et servent de base à la matrice de plastique dans laquelle sont retenues les dents artificielles.

La construction de l'appareil est décrite

avec force détails. Au premier rendez-vous, la muqueuse de la crête alvéolaire est relevée d'un angle rétro-molaire à l'autre. Le périoste est relevé, une empreinte prise à l'aide de stent à basse température et l'occlusion enregistrée par le chirurgien. Le dentiste dessine les structures intérieure et extérieure qu'il désire avoir. On radiographie la coulée en Vitallium pour déceler les failles possibles.

Le deuxième rendez-vous est fixé six semaines plus tard. Le périoste est de nouveau décollé et la partie interne de l'appareil mise en place sans torsion.

Plus tard, de trois à huit semaines après, si la guérison est complétée, la partie externe de l'appareil est mise en place. On coule un modèle dans une empreinte préliminaire et on fixe un boudin de cire à l'appareil extérieur. On enregistre l'occlusion verticale et l'occlusion centrique. Les dents sont montées dans la cire sur l'armature extérieure pour l'essayage. L'appareil est ensuite fini en se servant d'acrylique à cuisson lente pour éliminer les torsions possibles de l'armature. La mandibule est radiographiée deux mois plus tard; six mois après, et peut-être un an plus tard.

REFERENCE

1. Gershkoff, Aaron and Goldberg, N.I. Implant Dentures. Philadelphia, J. B. Lippincott Company, 1957.

450 Central Avenue.

"Democracy cannot be maintained without its foundations, free public opinion and free discussion throughout the nation of all matters affecting the state within the limits set by the criminal code and the common law."

The Supreme Court of Canada, 1938.

Water Fluoridation: Some Aspects of Health Education and Motivation

R. S. McMILLAN, D.D.S., Dr.P.H., Barry's Bay, Ontario

Today's literature contains a multitude of articles on specific fluoridation projects. Most of these, unfortunately, deal with the successful attempts, making it difficult to assess our shortcomings. This of course, is natural, as nature has endowed the normal individual with the faculty of remembering the pleasant things in life and of forgetting the unpleasant. When this procedure becomes completely reversed, we indeed have a more serious problem on our hands. However, there are times when an individual requires a good self-analysis and re-orientation. This, I presume, might also apply to a body of individuals. It is by now an accepted fact that we are dissatisfied and surprised at the slow progress of our program of fluoridation. Much more opposition has been encountered than expected and a good deal of this opposition has come from unexpected sources.

We might choose to soothe our wounds by assuming that the world is becoming infested with crackpots or that people in general are developing an anti-scientific attitude. Some may find solace in the fact that we are not experiencing any more difficulty with fluoridation than was experienced with chlorination some forty years ago. North America has undergone many changes in these past forty years. The techniques of industry have changed as quickly as research and invention have made new techniques available. It might be interesting to know how much our techniques of education and motivation with regard to fluoridation differ from those used in obtaining chlorination. We might also check with the fields of psychology, health educa-

tion, and social science to determine whether or not we have overlooked some methods of motivation and education which might have been used to advantage. It is with these things in mind that this paper was prepared. There is at present no standard blueprint for program planning which might be applied to any community. When more research has been conducted in this field it may be possible to formulate a set of basic principles for community program organization.

What is presented here should not be taken as destructive criticism. It is merely an attempt to look for some of the blocks we have encountered in fluoridation. Such an insight might be of value in the promotion of fluoridation and other existing programs. Furthermore, it is highly probable that research will provide us with other major dental public health measures in the near future. Let us hope that the problems of establishing future programs are not so readily compared with the problems of chlorination which were encountered at the turn of the century.

CHANGING PHILOSOPHY OF HEALTH EDUCATION

Since an attempt is being made to relate program promotion to health education and motivation, a review of the changing philosophy of health education is in order. Galdston³ has broken health education down to three disciplines of derivation: (1) the facts derived from science, (2) the techniques utilized in the presentation of the facts derived from pedagogy, and (3) motivation which is

derived from psychology. It is pointed out that the above three divisions also coincide with the sequence of the history and development of health education.

Originally the health educator was primarily and almost exclusively interested in presenting facts. It was apparently believed that the more gruesome these facts were made to appear the better the results. Part of the stock in trade of the health educator in the early anti-tuberculosis campaigns was a pickled lung complete with a rhythmically flashing electric light. The program employed in the promotion of chlorination utilized a similar fact presentation technique. While the presentation of facts still plays an important role in modern health education, their presentation alone has proved ineffective or at the best inefficient.

In the second phase of the development of health education we witness an attempt to sugar-coat the facts. Galdston refers to it as Pavlovian or exogenous motivation (because it is related to the original experiment by Pavlov in which the conditioned dog salivates at the sound of a bell). The philosophy of this type of motivation is quite authoritarian and often has an antagonizing effect on the recipient. Here some undesired and unfavorable condition is observed, and the health educator sets out to counter it. Knowing that people do not respond readily to an authoritarian approach, the health educator resorts to fear as an aid. The result is something like this: "I know the facts are unpleasant and I don't really like to force them upon you but if you don't pay attention to them something dreadful is likely to happen to you."

This type of health education overlooks the concepts of dynamic psychology. The normal individual is a motile being, both physically and psychologically. Any new force that is brought to bear on him encounters established forces already in operation and the resultant of the conjunction of the older forces with the new may be other than anticipated

or desired. It might also be described as that type of motivation which concentrates on the text with little or no regard for the nature, quality, condition or direction of motivation of the person or persons whom we propose to motivate.

The third type of education and motivation is derived from dynamic psychology. This recognizes the fact that the individual or group is an organism with an innate momentum, whose evolvment and progression follow distinctive and characteristic patterns. From birth until death the individual is motivated by certain basic drives. These drives change from period to period during the life of the individual. It is up to the educator to recognize these drives in the individual or in the group and have his material somehow ride along with these drives. That is to say that the normal individual has no basic drive to be healthy for health's sake. However, in the attainment of some of his drives, health plays a role. For example, people refrain from spitting on the street not because they do not wish to spread germs, but because a basic drive has elevated them to a certain status where this just is not done. Johnny does not drink his milk because someone tells him that the contained calcium builds strong bones. However, he might drink milk in order to be big and strong enough to play on the football team. Mary does not visit the dentist every six months basically because she wants healthy teeth. She might, however, be motivated through reasons of appearance. Her mother on the other hand may visit her dentist every six months because the Smiths' and the Jones' do. Perhaps the so-called crackpots and others who speak against fluoridation are not doing so because they actually fear fluoridation. More likely they are doing so to gain recognition. Recognition is one of the basic psychological drives and, after all, the opponents do get their names in the papers.

The negative side of endogenous motivation should also be of interest to us. This is the type of motivation which

actually impedes the progress of the individual. It is evident in people's resistance to education and persuasion and is evident in their clinging to superstition and in their susceptibility to quackery. These negative forms of motivation are important considerations in program planning and cannot be attacked directly with facts. The woman who is sure that the massage given to her by the quack provides the treatment which she really needs, may be quite right, in the light of the particular distortions which affect her life.

Now let us attempt to relate our fluoridation programs to three phrases of health education as outlined. In so doing we will refer for the most part to three of the studies^{4,6,7} on communities which have rejected fluoridation.

COMMUNICATING FACTS

Beginning with the facts, we find that those promoting fluoridation did not do so without first gathering sufficient data on the effectiveness and safety of fluoridation. As David B. Ast has said, "no other public health measure has ever been so thoroughly studied and tested before it was introduced." The task of getting these facts across to people has been something else again. One cannot blame those who have worked so hard and unselfishly for so many years to perfect a method of preserving the dental health of the public, for assuming that people would accept their findings with open arms. Unfortunately such was not the case. To the dental profession, and others concerned with fluoridation, the dental health problem of North America is a serious one. It is one which is important to the general health and well-being of the individual. It is one about which something should be done and done immediately if possible. These feelings or motivations unfortunately are not shared to the same extent by the general public. Probably, our greatest mistake was in assuming that they were.

In all three reports studied it is ad-

mitted that actual fluoridation was attempted without a proper educational program. It is also evident that the actual facts had not penetrated or were thoroughly confused. In Mausner's⁷ study of the Northampton, Massachusetts referendum he found that two-thirds of those who professed to be against fluoridation also claimed to base their opinions on scientific research. A later survey by Mausner also showed that many who had voted against fluoridation were of the opinion that dentists and chemists thought it bad for children's teeth.

This brings up the problem of communication in our modern society. To the uninitiated it would appear that with all our modern media, the matter of getting information to the public is a simple one. Metzner^{9,10} has pointed out that such, indeed, is not the case. A survey shows that ten years after the first atomic bomb was dropped ten per cent of the American people had not heard of an atomic bomb. There is little wonder then that many had not heard of fluoridation when it was introduced to their community. The reasons for this difficulty of communication are many and are adequately discussed in Metzner's papers. The fact that is important to us is that communication barriers do exist and until we penetrate them we can have little success with an educational program. This is not to say that the only method of penetrating such barriers is to bombard them with facts and repetition of facts. It is possible that through endogenous motivation we can get the public to come to meet the facts.

In concluding, Metzner advocates a thoroughly planned educational program to precede fluoridation. The thoroughness of this early planning is of extreme importance and will be further discussed under endogenous motivation.

PEDAGOGIC TECHNIQUES

While the dentist is not particularly trained in pedagogic techniques, much patient education can be accomplished in the dental office. This is particularly true

with the rise in importance and numbers of dental hygienists.

With regard to the educational programs involved in the three communities reporting failure to adopt fluoridation, we note that they were of the fact-presenting variety. For the most part they were carried out solely by medical and dental personnel using radio, newspaper, and public meetings. As was mentioned earlier, all the reports recognized the lack of proper educational programs as one of the primary weaknesses.

PSYCHOLOGY OF MOTIVATION

The most modern developments in health education and motivation are derived from dynamic psychology. The newness of this endogenous type of health education is reflected in a statement made by Galdston³ in 1949 when commenting on the fact that most health educators were trying to motivate people with facts and facts alone. Galdston states: "I suspect that the answer is to be found in that facts are tangible, but emotions are not, and that we as health educators generally feel safer when dealing with facts than with emotions." This statement shows that dynamic psychology is new in health education. By substituting "dentists" for "health educators," this statement also reflects a similar attitude on the part of many dentists to dynamic psychology in the past. Fortunately, there is realization of the need for a greater understanding in this field. This is borne out by Knutson⁵, who stated:

"I am referring, of course, to our basic lack of knowledge of the forces which motivate people to action in relation to health matters or which fosters doubt, indifference, procrastination, and even violent opposition based on bizarre combinations of information and misinformation. The striking similarity in frustrating experiences in the promotion of water chlorination, beginning with this century, and today's program of water fluoridation should point up the long overdue need for basic sociological and psychological studies in this area."

The importance of bringing every organization and group, related and unrelated, into a program in the early stages of planning is of extreme importance in relation to endogenous motivation. Many of these major groups, minority groups, and individuals are potential opponents of fluoridation. The fact that they are asked for their opinion on the question might do a great deal toward motivating favourably by way of their basic desire for recognition or a basic gregarious drive. Overlooking them on the other hand, might have the reverse effect.

This early planning stage should not be rushed and much of the leadership should come from the lay public. This points out one of the weaknesses of the Seattle program as reported by Lehman and Kahn⁶. Here we find a considerable effort at getting the "facts" to the people. The leadership, however, was definitely in the hands of dental and medical personnel. Lay participation was dominated throughout by one particular organization. Several new committees and organizations were formed to deal with fluoridation. Here one can only guess that there may have been other existing organizations willing to participate. The report recognizes that the "fact presentation" portion of the program was overly stressed. No doubt it is essential to have the facts and endorsements by leading scientific organizations and individuals in our fluoridation program. However, we should not rely too much on such endorsements as a means of education and motivation.

SUMMARY

To summarize, we find that the following points are outstanding in relating the programs studied to Galdston's classification of health education and motivation.

1. Educational programs were of the exogenous (fact-presentation) variety.
2. Problems of communication were underestimated.

3. Attempts at relating the health of the children were noted but were later abandoned due to the amount of time required to answer criticisms.

4. Basic planning failed to reach all the elements of the community.

5. Too much leadership was retained by the professional groups immediately related.

6. There was not sufficient time allotted to the educational phase of the program.

One can only speak in generalities on the subject of endogenous motivation due to the lack of research and controlled studies in this field applied to dentistry^{2,5}. It is to be hoped that the glaring need for such investigation is enough to motivate us to action.

With such limitations in mind and with no claim to completeness, it is felt that the following basic drives should be given consideration at the planning stage of a fluoridation program.

1. Recognition — The individuals or groups who crave recognition might make good leaders for our cause. If overlooked they might turn out to be effective anti-fluoridationists.

2. Financial security—Fluoridation will definitely save money in dental bills.

3. Parental love and affection—Fluoridation saves children's teeth, thereby contributing to their general health and social acceptability.

4. Gregariousness — There is a basic desire for people to work or move together in groups. As dentists, we should make our group available to all.

RÉSUMÉ

L'auteur analyse quelques causes d'échecs dans les campagnes entreprises pour convaincre la population des bienfaits de la fluoridation.

Ces campagnes d'éducation suivent presque toutes cette marche-ci: (1) elles s'appuient surtout sur la présentation de faits; (2) elles n'attachent pas assez d'importance aux contacts avec le grand public et à son interprétation des exposés

qui lui sont faits; (3) les protagonistes de la fluoration tentent d'abord de relier cette mesure à la santé des enfants, mais ils ne peuvent pas continuer longtemps dans cette voie, car on leur demande de répondre aux objections de ses adversaires; (4) ces campagnes, dans leur organisation de base, n'atteignent pas toutes les classes de la société; (5) les groupes professionnels, qui sont les plus touchés par cette mesure, gardent trop la direction de ces campagnes; (6) enfin, on n'a pas consacré suffisamment de temps pour éduquer les gens sur cette question.

Il faut tenir compte, en organisant une campagne d'éducation, de la psychologie fondamentale de l'homme: (1) laisser des initiatives à certains individus ou à certains groupes qui désirent avoir un certain rôle à jouer; ceux-ci pourraient devenir des protagonistes efficaces en faveur de la fluoration. Par ailleurs, ces personnages ou ces groupes, s'ils sont négligés, sont susceptibles de se faire des adversaires de cette mesure; (2) il faut appuyer sur les avantages pécuniaires de la fluoration, c'est-à-dire sur la diminution des notes d'honoraires qu'elle entraînera; (3) il faut faire appel à l'amour et l'affection qu'ont les parents pour leurs enfants, c.-à-d. que la fluoration, en préservant les dents des enfants, les rend plus heureux et leur donne une meilleure santé; (4) il faut songer à l'instinct naturel qu'ont les gens de travailler en commun.

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Complete Denture Procedure—Part 3

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FIFTH AND SUBSEQUENT APPOINTMENTS

The processing of dentures is not a completely accurate procedure. There is a slight shrinkage of the methyl methacrylate material during polymerization, teeth may shift slightly, the casts may be damaged during handling or may contain a few bubbles creating rough areas in the finished dentures. Besides, the human element enters into the problem of attaining accuracy. Errors may have occurred at some stage of the procedure, perhaps during the impression making, or when registering the occlusion or some other manual step.

Care, therefore, must be exercised when delivering the dentures to attempt the correction of some of these deficiencies. This is a critical period in the patient's life. He must be given the impression that the delivery of the dentures is by no means the final procedure. He should be informed that some further service is necessary, and will be forthcoming but he, in turn, must co-operate to the fullest degree. The first measure we can take is to render the new dentures as free from pain as possible during the first day or two.

THE ADJUSTMENTS OF THE DENTURES

Causes of Pain

Pain from dentures is caused either by abrasions or excessive pressure. Abrasions may be caused by small bubbles or roughness in the denture base material due to defects in the casts, by sharp areas on the teeth and denture base material due to improper polishing, or by biting the cheek or tongue.

Cheek biting and tongue biting are usually caused by insufficient overlap of the posterior teeth. Where it is imperative to set the teeth in an end-to-end occlusion the lower buccal and the upper lingual edges of the teeth should be rounded out so that the cheek and tongue are not pinched.

It has been the author's experience that undercuts created by convexities of the bone which interfere with the insertion or removal of the dentures invariably create abraded areas. The principal areas where undercuts occur are at the buccal portion of the tuberosities of an upper denture, the posterior lingual flanges of the lower denture, which were, at one time, tried for better retention, and the undercut created by the lingual torus usually in the bicuspid regions of a lower denture.

The pressure type of lesion is caused chiefly by overextension of the flanges

Parts 1 and 2 of this three-part article were published respectively in the July and August 1961 issues of the *Journal of the Canadian Dental Association*.

created during border moulding or by excessive pressure exerted on the underlying bone because of the "settling" of the dentures.

Excessive border moulding creates lesions at the mucobuccal and mucolingual fold areas and measures must be taken at the time of delivery of the dentures to prevent pain resulting from the excessive pressure on the fibrous tissue which is stretched beyond its functional limits. Wherever border moulding has been performed through the use of compound, the author squeezes a quantity of thermoplastic material*, which has been softened in water at 130° F., over the affected peripheral area. The patient is asked to rinse with water previously warmed to 130° F., taking a sip of water at a time with the teeth clenched and expectorating it until the glass is emptied. The water at that temperature is no warmer than hot tea and this information should be conveyed to the patient before asking him to rinse. This is followed by rinsing with a glass of cold water. The areas of excessive pressure will become exposed and should be reduced (Figure 1). The procedure is repeated if necessary. This step is not performed in areas where border moulding employing compound is not utilized and there is no danger of overextension.

Instruction to Patients

The patient is dismissed with instructions to keep the dentures constantly in the mouth, only removing them for cleansing. The patient is warned not to attempt to eat solid foods for the first two days. If the patient considers it necessary he may telephone the office and will be seen the next day; otherwise he is seen in about two days when the mouth is examined and further instructions are given the patient about his new dentures. Dentures are not delivered immediately before a weekend when the dentist is not available for adjustments.

*The author uses *Adaptol*, Jelenko.

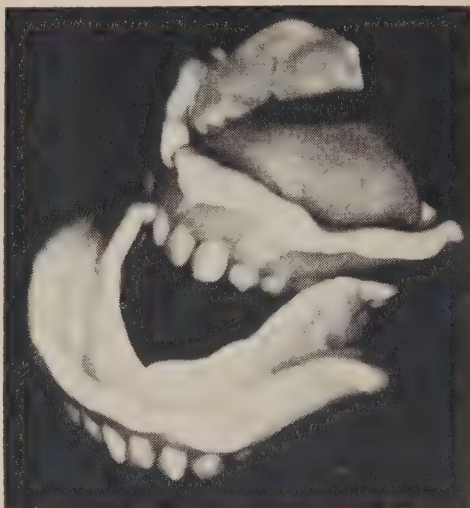


FIGURE 1

He is told that patients usually eat well in about a month and completely forget about eating difficulties in about three months. In the meantime, for the next few days he should only eat soft or semi-soft foods such as eggs, chopped meat, fish and cereals. The following week when he begins to eat foods which are more solid they must be cut into small cubes not more than a half inch in diameter.

"Settling" of Dentures

Tissues have evolved defences to meet excessive stress. The trabeculae of the bone are known to rearrange their pattern to meet the direction and intensity of a load. The softer tissues also alter, this being true of stratified squamous epithelium which lines the denture bearing areas of the oral cavity and the subepithelial tissues. The glandular tissues under the upper denture are also affected. This reorganization produces "settling" of the dentures.

The settling may produce lesions on the denture-bearing areas where the high-



FIGURE 2



FIGURE 3

er elevations and sharp projections of the bone are forced through the softer structures causing pain. Another major result of settling is the altering of the occlusion. After about a week or two the occlusion which is probably altered, is corrected in the mouth.

Some mouths have sharp, thin ridges. These should be relieved in the impression wherever possible, or on the casts, by placing tinfoil over the sharp crests. Failing that, the dentures may be relieved by grinding the affected portion of the denture base with a sharp bur. Patients find it difficult to endure the pain when the denture bases are contacting these very sharp ridges and spiny projections, and they should be relieved as early as possible. Other areas to be relieved are the mylohyoid ridges. These could also create painful sores and must be relieved in the same manner as the sharp crests on the alveolar ridges.

Disclosing Pastes

Sometimes pressure areas hurt before they actually show lesions. These will become apparent at a later date. They are detected by one of the disclosing pastes. At least two of these should be kept on hand. Some good pastes are obtained commercially. The author makes one himself which he calls *Lanzox* because it is

mixed with three parts lanolin and five parts zinc oxide. A stiff brush (a tooth brush will do) is sterilized in a solution, then dried and kept in readiness. The paste is rubbed on the denture very thinly (Figure 2), which is then dipped into warm water and pressed on the affected area. Usually a clear spot is formed which is the part to be relieved.

In very dry mouths, where *Lanzox* adheres to the tissues, a gelatin type indicator* is used. This is previously shaved into a copper ladle and melted. It is kept handy in this manner along with a soft camel hair brush applicator. The gel is melted over a Bunsen burner and a thin layer is brushed on the affected part of the denture which is then dipped into warm water and pressed to the affected part. The disclosed area is relieved and polished. Lesions are then touched up with Mandl's Pigment.†

Coble Balancer

The occlusion is refined by means of the Coble balancer. This is fastened to the dentures with the stylus of the upper member extended to prevent the occlusion of the opposing teeth. With the aid

*The author uses *Indicator Gel*, Dental Perfection Co.

†Mandl's Pigment: Iodine 12.5 Gm., Potassium Iodide 25 Gm., Water 25 cc., Ol. Pip. 4.2 cc., Alcohol (90 per cent) 37.5 cc., Glycerin to 1 litre.

of articulating paper the high spots are detected which interfere during normal excursions (Figure 3). The excursions must not be carried out in too great a range or a tipping action is created and the pressure is no longer equally distributed.

The stylus is shortened a quarter of a turn at a time and the teeth ground until at the conclusion, carbon paper marks appear on all the teeth. The teeth are now considered to be in balance.

To refine the procedure further, carborundum paste is placed on the teeth and the patient is asked to mill in the denture for about three minutes (Figure 4). The dentures are cleaned, the balancer is removed and the teeth are buffed with pumice and water to make them smooth. The patient is advised to telephone for an appointment if any further trouble occurs.

Gagging

Very often the patient is unable to wear the dentures for a length of time because of gagging. At Loyola University in Chicago it was recently reported that seventy out of seventy cases were cured by means of reducing the vertical dimension sufficiently. The dentures were mounted on an adjustable articulator, employing a face bow and a wax record of centric occlusion, and the vertical dimension was reduced by grinding the teeth while on the articulator. If the initial reduction did not relieve the patient's gagging, the procedure was repeated until a cure was effected. In some cases the teeth were completely ground away, necessitating replacement. The theory is that the muscle fibres are stretched thus starting off a reflex gagging mechanism. Some patients are more sensitive than others.

The author has employed a method of suggestion therapy with considerable success. He seriously informs the patient that it is impossible to gag while holding the breath. The patient must hold his breath and count to five when a gagging reflex appears. After he has expelled the



FIGURE 4

air the desire to gag will have disappeared.

CONCLUSION

Massler recently reported the results of a gerodontic study in which he was engaged in Israel while on sabbatical leave from the University of Illinois. The study concerned the ability of elderly persons to adapt themselves to the wearing of dentures. There was much information concerning the condition of the ridges, the method employed and the materials used. The predominant factor for success in wearing the dentures was the personal warmth and interest displayed by the dentist. People like to feel that they are wanted and that somebody is interested and cares for them.

Wearing dentures is an important event in a person's life. With some people it becomes a major factor. The dentist, accordingly, must not only produce well-made dentures, and service them properly, but must display a warmth and an interest while engaged in these services. This is the truly professional approach.

RÉSUMÉ

L'auteur détaille une technique de construire des pièces complètes qu'il emploie dans son cabinet particulier ainsi que dans la clinique dentaire de l'hôpital

New Mt-Sinai à Toronto. La confection des pièces peut se réaliser en cinq rendez-vous.

Le "McGrane Tracer" est utilisé pour tracer la voûte gothique en déterminant

l'occlusion centrique et verticale. Le "Coble Balancer" est employé pour balancer l'occlusion après la confection des pièces.

45 Avenue Road

Clinical Impressions of a New Antibiotic In Periodontics: Spiramycine

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The following report is based on two and a half years of clinical trials in the use of spiramycine in periodontics.

According to Durel¹ (1956): "spiramycine (*Rovamycine*) is a new antibiotic produced by a new species of streptomycetes which was isolated from a sample of soil obtained from northern France and has been called *S. ambofaciens*. The antibiotic was discovered in 1953 in the Rhône-Poulenc Research Laboratories." The manufacturer states that "spiramycine is especially active against gram-positive organisms (*staphylococcus*, *streptococcus*, *pneumococcus*, *enterococcus*). It is also effective in some gram-negative infections (due to *H. pertussis*, *Neisseria*, etc.). Spiramycine does not irritate the gastric mucosa and has less effect on the intestinal flora than the other known antibiotics. These two properties explain its excellent tolerance and make it a safe antibiotic for current use."

Spiramycine is supplied in 250 mg. capsules and only recently has become

available in 500 mg. capsules; it is intended for oral use only as the salts for injection are at present not satisfactory.

It has been apparent for some time but only recently realized by the clinician that strains of organisms resistant to antibiotics are continuously developing; this is particularly true of the staphylococci which in many cases are now unaffected by penicillin and the tetracyclines. According to Durel's report of an article by Gate and Pellerat² who studied the *in vitro* sensitiveness of staphylococcus strains isolated from various patients on admission, the authors found that of 56 cases tested with penicillin, 23 strains were sensitive but some 33 were resistant. With the newer antibiotics, tetracyclines, etc. more of the staphylococci studied were sensitive to these agents. With the newest antibiotics, of 48 cases studied in each, 44 were sensitive to neomycin and only 4 resistant, whilst with spiramycine 47 were sensitive and only one resistant. Durel feels strongly that "the rising incidence of penicillin resistance in staphylococci and the reluctance to use tetracyclines in staphylococcal infections for fear of emergence of a resistant strain of enterotoxic staphylococcus strengthens the position of erythromycin and spiramycine in such cases."

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Spiramycine is manufactured under the trade name of *Rovamycine* by Poulenc Limited, Montreal and La Société Parisienne d'Expansion Chimique (Rhône-Poulenc), Paris.

This study was supported by a grant from Poulenc Limited, who also supplied the material used in the investigation.

REVIEW OF THE LITERATURE

A review of the literature from France indicates satisfactory results from the use of spiramycine in the treatment of pneumonia, lung abscesses, osteomyelitis, pleurisy, etc. The results were on the whole the same as would be expected from other antibiotics, but in many cases, the results were satisfactory after other antibiotics had failed; this is probably explained by the development of resistant strains as was previously mentioned. The dosage at the time (1955) was indefinite but it varied from 2 to 4 Gm. daily for three to eleven or twelve days.

More recently (1960) in Manitoba, Kristof and Huot³ treated some 62 patients with similar results and conclusions; they also noted that spiramycine can be freely combined with other antibiotics.

Our interest in the use of spiramycine in dentistry, particularly in periodontics, stems from an article published in France in 1956 by Daligand and Pellerat⁴. The authors state that due to the presence of the various staphylococci, streptococci, pneumococci and spirochaetes in the oral cavity which are apparently sensitive to spiramycine, and due to the fact that spiramycine seems to be well tolerated by the gastrointestinal tract, and also due to its great flexibility, "... it could be used in the ambulatory treatment of our patients."

The above authors reported only seven cases which were followed for periods of from three weeks to seven months; the seven cases were composed of (a) periodontal abscesses with or without fistulae and (b) chronic periodontitis with supuration all of which they had been unable to control by normal procedures. The authors reported satisfactory results which they stated: "... would seem to be permanent."

Several points of interest were noted in the above articles:

1. The amount of antibiotic used was extremely small compared to the earlier medical reports: only two to three 250

mg. capsules were administered daily in divided doses — the treatment lasting from two to three weeks, and in one case, two capsules daily for another 15 days.

2. No radiographs were available, which the authors regretted, although they reported the results still clinically encouraging.

3. The short duration of the postoperative observations.

More recent articles by these and other authors repeat the earlier claims: Daligand⁵ in 1958 following three years of trials stressed the low dosage of spiramycine for two to three weeks whilst at the same time local treatment was carried out.

In 1958 Hess⁶ using similar dosage, stressed that spiramycine is of use only in periodontitis, i.e. where inflammation is present. Others, however, indicate it of value in periodontosis—or non-inflammatory conditions.

In 1959 Couturier⁷ described the past uses of vaccine therapy in the treatment of periodontal disease as being unsatisfactory in that one organism is attacked whilst everything points to the fact that numerous organisms are more likely involved. He felt that spiramycine, even in the low dosage recommended, seemed to assist in destroying the organisms in periodontal disease. Some 800 cases were studied over a period ranging up to a maximum of two to three years. None of these articles provided radiographs or photographs for comparison.

PRESENT INVESTIGATION

In June 1958 the author was approached by Poulenc Limited to carry out experiments on the use of spiramycine in periodontal disease as none had been performed in North America. Reviewing the literature available at that time, two important facts were apparent; none of the experiments was carried on for more than a period of seven months; also no radiographic or photographic evidence was presented. In other words, the results attributed to spiramycine were based entirely on clinical impressions. It was evi-

dent, however, that spiramycine probably had a place along with other antibiotics in dentistry to combat acute infection and also had a place where penicillin-resistant strains had developed. Another important consideration developed in the course of the next two and a half years: it has been twice used successfully where an allergy to penicillin existed. However, the use of an antibiotic to treat the majority of cases of periodontal disease seemed most unlikely as most cases respond to local corrective measures. Here again it seemed that spiramycine might be of value when used concurrently with local treatment in more severe cases.

Over a period of thirty months, between June 1958 and November 1960, spiramycine was used in some seventy office cases, seven of which are reported in detail.*

Cases Nos. 1 and 2

These two cases are described together due to their similarity and for comparison of treatments. Case No. 1 was a female patient aged 18. Case No. 2 was a female patient aged 23.

History.—Both patients complained of tender bleeding gums for two to three days.

Examination and Diagnosis.—In both patients clinical examination revealed two to three millimetres of destruction of the interdental papillae. A diagnosis of acute necrotizing ulcerative gingivitis (trench mouth) was made in each case.

Treatment.—Case No. 1 was prescribed spiramycine daily, in divided doses for three days with no local treatment being performed. Case No. 2 was placed on the same regime, but in addition, thorough scaling was performed immediately.

Results.—In both patients there was complete disappearance of the ulceration, pain and bleeding within twenty-four hours.

Discussion.—The majority of periodontists are agreed that local measures will cure any case of acute necrotizing ulcerative gingivitis and that the most important part of the cure is the subsequent treatment to eliminate the

pockets and uneven architecture resulting from the attack. In the past two and a half years numerous patients have been treated with spiramycine alone for the first few days in order to assess the result without local therapy. In all cases within 24 to 36 hours pain had disappeared and examination disclosed the disappearance of the ulceration within one to three days—the latter being the longest time necessary, and then in only one case. It was necessary then, however, to carry out local treatment to eliminate the local factors. It would seem from these few clinical cases that spiramycine is a satisfactory antibiotic to be used as an adjunct to local therapy in the treatment of acute necrotizing ulcerative gingivitis—particularly in severe cases or in very young patients when little or no calculus is present.

Case No. 3

History.—A female patient, aged 18 years complained of sore gums and throat for two to three months. Treatment during that period included oxygenating and other mouth washes, throat lozenges, penicillin lozenges, penicillin rinses, high vitamin B and C therapy.

Examination.—The gingivae were slightly hyperplastic and exhibited an acute inflammatory reaction—a 3 mm. bright red gingival margin with associated congestion of the unattached mucosa—and the throat also considerably congested; the submandibular glands were palpable and somewhat tender. The dental restorations were excellent, there was little or no calculus present and the oral hygiene was more than satisfactory.

Diagnosis.—The history and clinical picture suggested that the patient originally had an attack of primary herpetic gingivostomatitis.

Treatment.—All rinses were stopped with the exception of warm water, and spiramycine, 250 mg. 2q8h for four days and 1q12h for four days was prescribed. Within five days all pain had disappeared and examination disclosed the complete disappearance of the red gingival margin although the hyperplasia remained; the congestion of the throat had disappeared and the glands were not tender. Local treatment eliminated the hyperplasia.

Discussion.—A similar case of acute herpetic gingivostomatitis or primary herpes was seen in the Montreal General Hospital Out-patient Dental Department. The patient had been treated some seven weeks previously with tetracycline which brought the temperature under control from a previous reading of 104° F. Some local treatment had reduced

* Cases Nos. 1-6 previously reported.⁸



FIGURE 1

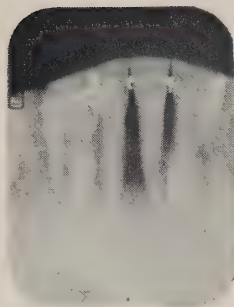


FIGURE 2



FIGURE 3

Case No. 5. Male patient aged 45, with an acute periodontal abscess emanating from between the lower central incisors. Figure 1 shows radiograph taken at time of initial examination, February 13, 1958. Figure 2 shows radiograph taken eleven months later, January 7, 1959. Figure 3 shows radiograph taken eighteen months later, July 10, 1960.

the condition further, but when seen in the Periodontic Department seven weeks later, a bright red, swollen, tender gingival margin remained. Spiramycine was prescribed without any local treatment being performed and four days later, the red swollen gingival margin had completely disappeared. According to the patient, the pain and swelling had disappeared within twenty-four hours.

These two cases would perhaps suggest that although it is unlikely any known antibiotic will affect the herpes virus, the foremost object of treatment would be to prevent or control secondary infection. Spiramycine appeared to perform this task.

Case No. 4

History.—A 44-year old widow complained of being unable to eat any solid food for two months due to severe soreness in the mouth.

Examination.—Three separate areas of the mouth, each involving one or two teeth, exhibited acute inflammatory reactions with considerable swelling and calculus present.

Diagnosis.—A diagnosis of multiple periodontal abscesses was made.

Treatment.—Some general scaling was performed but due to the patient's obvious low resistance to infection therapeutic doses of vitamin B complex and vitamin C were prescribed along with spiramycine, 250 mg.

2q8h for three days and 2q12h for six days. Within twenty-four hours the patient reported feeling a "bit better" and in five days she "felt fine", experienced no soreness and was able to "eat anything" for the first time in months. Normal healing was evident and two months later there was no recurrence. At this time a thorough scaling and prophylaxis was all that was necessary to complete the treatment.

Discussion.—Local treatment alone would have cleared up the condition, but it was felt that the healing process was considerably hastened and the local treatment reduced by the use of spiramycine.

Case No. 5

History.—A male patient aged 45 attended on February 13, 1958 complaining of acute pain and swelling about the lower incisor region.

Examination and Diagnosis.—This revealed an acute periodontal abscess emanating from between the lower central incisors, with both teeth being extremely mobile. Radiographic examination (Figure 1) showed severe bone loss.

Treatment.—Excision and curettage of the area was performed under local anaesthesia and this relieved the condition. Twelve days later the teeth were temporarily ligated with

wire until such time as they would probably have to be removed—after the completion of other necessary periodontal treatments.

On July 10, 1958 the patient again reported with an acute periodontal condition in the same area. This time, however, there was a slight soft swelling between the incisors on the lingual aspect and a firm subperiosteal swelling along the labial vestibule extending from cuspid to cuspid. A lancing incision was made in the lingual interproximal area, but no discharge was apparent. The patient was prescribed spiramycine, 500 mg. q6h and within twenty-four hours all swelling and pain had disappeared. The patient insisted on retaining the teeth. No other treatment was performed.

The radiograph in Figure 2 taken six months later (January 7, 1959) shows some improvement of the area whilst that in Figure 3 taken two years later (July 10, 1960) shows the presence of a new lamina dura. The crevice at this time measured only 3 mm. on the mesial of the right central and 2 mm. on the mesial of the left central. During this period of two years, the patient attended only on three occasions for routine scaling and prophylaxis. It seems highly possible that the antibiotic was of value in this case.

Case No. 6

History.—The patient, a male aged 32 years, slightly obese, with no specific complaint, had been told that the bone supporting his teeth was being rapidly lost and he would soon lose all his teeth if no treatment was performed.

Examination. — Clinical examination disclosed a clean mouth with little or no supragingival calculus present although there was some subgingivally. The gingivae exhibited slight oedema, little stippling and a marked overall cyanosis to make them almost indistinguishable from the congested unattached muco. Pus exuded from almost all areas of the upper gingivae on slight pressure. Pockets up to 9 mm. in depth were recorded in many areas. Representative radiographs are shown in Figure 4.

Diagnosis.—Due to the medical background and the clinical picture, diabetes was at first suspected and the patient was referred to an endocrinologist. Although diabetes was later ruled out, the patient definitely exhibited considerable hyperglycaemia and was prescribed a low carbohydrate diet. (It was found later that he adhered to this diet for about one week only). A tentative diagnosis of "necrotic periodontitis" was made.

Treatment.—Due to the questionable prognosis of the upper teeth and due to financial considerations, the patient decided to have only the lower teeth treated.

One day prior to the gingivectomy of the lower right segment, low spiramycine therapy was initiated for a period of seven days. Although healing was uneventful, it was interesting to observe that after a few days the patient could no longer detect the taste of pus in the mouth. Examination of the upper gingivae on the eighth day disclosed a definite colour improvement and no pus could be expressed by pressure on the gingivae. The colour improvement and absence of pus remained for about four weeks. By the fifth week, some regression seemed to occur. Following the completion of the treatment of the lower jaw, the upper teeth were given a cursory scaling. This was repeated six months later, but certainly no gingivectomy, curettage or even deep scaling was attempted at any time.

A year and a half later, the patient was asked to return at which time full mouth radiographs and colour photographs were taken. According to the patient, he had not adhered to his diet and his clinical appearance was still one of obesity. He had not returned to the endocrinologist or any other physician. His mouth, he claimed, felt fine and he therefore had seen no reason to consult a dentist. Examination of the mouth disclosed a remarkably healthy appearance and good colour (Plate 1). Stippling was evident to a considerable degree and there was no evidence of pus on pressure—even about the upper molar teeth. Pocketing was the same as originally, but the teeth were reasonably firm and definitely still functional. Representative radiographs for comparison with the original series are seen in Figure 5. They show little deterioration of the bone. Some areas actually show sclerosis of the lamina dura.

Discussion.—Something obviously occurred to change the picture of this case and it most certainly cannot be attributed to either local therapy or to the adherence to a special diet. The oral hygiene was always satisfactory and there is the interesting possibility that something happened to the oral bacterial flora which increased the resistance of the host to the traumatizing effects of local factors. This case could possibly be classified as "necrotic periodontitis" (Box¹¹) due to the lack of calculus and the lack of expected inflammatory reaction.

It is the consensus amongst periodontists 9, 10, 11 that periodontal disease is caused by multiple factors, usually with a local irritating factor or factors acting upon a susceptible host. Bacteria are included among these irritating factors. Some "primary"

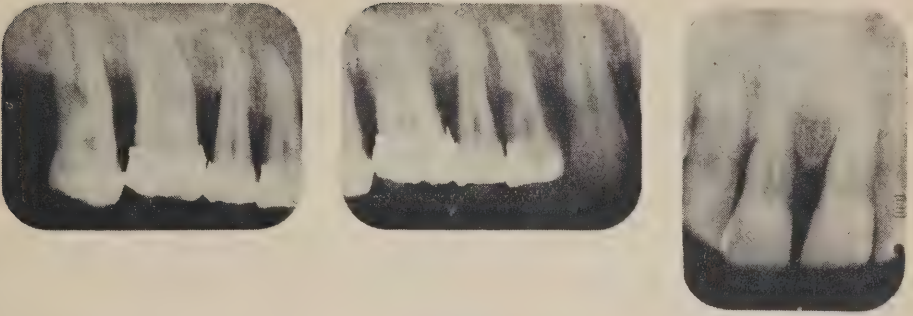


FIGURE 4

Case No. 6. Male patient aged 32. Original tentative diagnosis of necrotic periodontitis. Radiographs of maxillary incisors and upper left quadrant taken at time of initial examination in May, 1958.

irritating factor must be present to initiate the disease process and this is obviously so with acute infections, but Box¹¹ was one of the first to suggest that organisms may be the primary factor in certain types of so-called chronic periodontal diseases. Where organisms may be the primary factor, the use of an antibiotic over a period of time would certainly destroy them or at the very least reduce their pathogenicity. They would be replaced by other organisms which might not be pathogenic to the particular individual. The following case illustrates such a condition.

Case No. 7

History.—The patient, a male aged 42, presented with symptoms of sore throat and mouth accompanied by bilateral submandibular glandular involvement of nearly two months duration. There were also sensations of headache and dizziness with a slightly elevated temperature.

Examination.—Plate 2 shows the appearance of the oral cavity upon examination. An overall cyanosis was present with considerable congestion of both the attached and

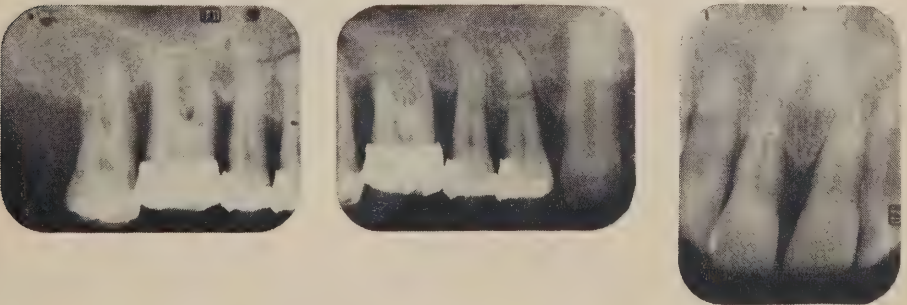


FIGURE 5

Case No. 6. Radiographs taken two years after the initial examination, May 18, 1960.



FIGURE 6

Case No. 7. Male patient aged 42. Tentative diagnosis of acute inflammatory reaction superimposed on periodontitis simplex. Radiographs taken at time of initial examination, August 16, 1960.

unattached mucosae. Representative radiographs are shown in Figure 6.

Diagnosis.—A tentative diagnosis of acute inflammatory reaction superimposed on a periodontitis simplex was made, with the possibility of an underlying abnormality of the blood sugar. (This was subsequently ruled out.)

Treatment.—No local therapy was instituted at first. Spiramycine was prescribed at an initial dosage of 2 Gm. daily in divided doses, followed by 1½ Gm. Twenty-four hours later the patient telephoned and claimed that "I feel better than I have in months". When seen seven days later, memory being what it is, the clinical picture seemed to show little improvement although the photographs as seen later showed considerable improvement. The following day, the patient telephoned with apparent "flu" symptoms and at the suggestion of his internist, who had in the interval ruled out any other contributing factors, the spiramycine was increased to 2 Gm. daily for several days. Five days later, all symptoms of soreness, pus, glandular and throat involvement and head symptoms had disappeared. Plate 3 exhibits the remarkable return to normal gingival colour, reduction of swelling and the return of stippling which Box¹⁴ frequently stressed as the main indicator of a return to health of the periodontal tissues. An interesting point to observe is the comparative absence of calculus. This patient has since been treated, by segments and under local

anaesthesia, by thorough subgingival scaling and curettage—the curettage being limited to the sole removal of the epithelial attachment. No attempt was made to remove the whole lining of the crevices or pockets. The mouth was treated by segments on the following dates: upper right quadrant—September 9, 1960; left maxillary central to left maxillary bicuspid—September 19, 1960; left maxillary second bicuspid to second molar—September 27, 1960; mandibular right cuspid to third molar—October 5, 1960; the lower anterior teeth and the lower left mandibular teeth were treated by scaling only for comparative purposes—November 1, 1960. Plate 4 shows the clinical condition on November 9, 1960. No occlusal adjustment was performed up to this time.

SUMMARY

To date, spiramycine has been used successfully over a period of two and a half years in approximately 70 cases of acute and subacute oral and periodontal infections. Seven of these are here described. It is clear that spiramycine can be used as one would use any antibiotic as an aid to sound local therapy. It would seem that it could be used in patients allergic to penicillin. It would also seem to be of use where penicillin-resistant or-



PLATE 1

Case No. 6. Male patient aged 32. Original tentative diagnosis of necrotic periodontitis. This photograph was taken two years after the initial examination, May 18, 1960.

PLATE 2

Case No. 7. Male patient aged 42. Tentative diagnosis of acute inflammatory reaction superimposed on periodontitis simplex. Photograph taken at time of initial examination, August 16, 1960.



PLATE 3

Case No. 7. Thirteen days later, August 29, 1960.



PLATE 4

Case No. 7. Ten weeks later, November 9, 1960.



ganisms are present—and these may be more numerous than we normally assume. An interesting possibility arises in that spiramycine may also be of use in certain cases of periodontal disease where bacteria may in time prove to be the most important aetiological factor. At least it appears to be of value when used concurrently with local therapy in the more severe purulent type of case. All patients who were prescribed this antibiotic were warned of the possible side effects on the intestinal tract. The majority had no reaction, but a few did complain of slight diarrhoea—which is fairly common with most antibiotics. Only in two patients to date did this cause sufficient complaint that the antibiotic had to be withdrawn—and in both cases only after a period of ten and eleven days respectively.

Within the past six months, some dozen or more patients who have been treated in the office for periods ranging from two to twelve years and whose condition has steadily deteriorated despite all types of local treatments performed by the author, have received spiramycine at low dosage for periods of two weeks. Photographs and full-mouth radiographs have been taken in each case prior to the administration of the drug. These patients are being followed to see if their condition will improve over a period of time. Time of course is most important in assessing the results of periodontal treatment. Beube has beautifully illustrated this fact in a recent article¹⁵ where he shows little or no radiographic evidence of bone repair during the first six months or so following therapy, though illustrating slow but definite bone repair continuing over a period of years.

It is obvious that in clinical experimentation any apparent results may be subject to clinical errors of judgement, human enthusiasm and misinterpretation. Repeated clinical experiments are therefore necessary in order to clarify the situation. Within the next year or so, it may be possible to present a further report.

RÉSUMÉ

L'auteur depuis deux ans et demi a utilisé avec succès la spiramycine pour plusieurs cas d'infections buccales aiguës ou sub-aiguës et pour plusieurs cas d'infection gingivale (environ 70 cas). Il est évident que cet antibiotique doit être utilisé comme tous les autres, c.-à-d. comme adjuvant de la thérapie locale indiquée; on se rend compte qu'il peut s'employer chez les patients allergiques à la pénicilline; il peut aussi être utile quand il s'agit de bactéries qui sont pénicilo-résistantes et ces circonstances se rencontrent plus fréquemment qu'on ne le croit. Il y a aussi un autre aspect intéressant à l'emploi de la spiramycine: elle peut s'utiliser dans certains cas de périodontoclasie où il arrive que les bactéries constituent le facteur étiologique le plus actif. On peut dire, pour le moins, que cet antibiotique a de la valeur pour les cas graves de suppuration, quand il est employé conjointement avec les traitements locaux. Tous les patients à qui on a prescrit la spiramycine ont été prévenus de ses effets secondaires qui affectent l'intestin. La plupart d'entre eux n'ont pas eu d'ennuis; quelques-uns ont constaté une légère diarrhée, ce qui est fréquent avec tous les antibiotiques. A date, seulement dans deux cas, il a fallu arrêter la médication pour ces raisons, mais seulement après dix ou onze jours.

Quelques douzaines et plus de patients, qui, au cours des derniers six mois, avaient été traités dans le cabinet de l'auteur durant des périodes s'étendant de deux à douze ans et dont l'état s'aggravait sans cesse malgré toutes sortes de traitements locaux, ont reçu de faibles doses de spiramycine durant deux semaines; des radiographies complètes ont été prises dans chaque cas avant la prescription de cet antibiotique. Ces patients sont suivis pour constater si leur état s'améliorera dans un certain temps. Il faut évidemment du temps pour juger des résultats d'un traitement en périodontie.

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4695 Sherbrooke Street W.

CASE REPORTS

Root Canal Obliteration with a Post Crown

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The following report describes the management of a crownless central incisor in a patient who presented for dental treatment in the writer's office.

Examination.—This patient had a crownless upper central incisor bearing a plastic crown that was attached to a broad shallow preparation in the coronal end of the root. The plastic crown was loose. On radiographic examination it was observed that the apex of the root was either overfilled or had been re-

sorbed or both (Figure 1). Two things were required: first a post crown to hold a porcelain jacket restoration, and second, an apicoectomy to arrest resorption. It was decided to combine both requirements.

Treatment.—The root canal was enlarged with root reamers bearing rubber elastic stops to avoid penetrating more than a millimetre beyond the apex. The gingival end of the root was flattened and fitted with a small band. The preparation was lubricated and inlay wax compressed to the apex. A

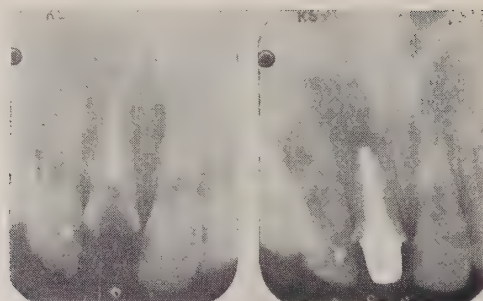


FIGURE 1

FIGURE 2

sprue was then flamed just enough to permit its being forced to the apex. The wax in the gingival band softened by the sprue was compressed again. The wax and the sprue were chilled, the band removed, and the pattern withdrawn by grasping the sprue with pliers. The coronal end of the pattern was carefully beaded with wax and carved to resemble a porcelain jacket preparation.

Apicoectomy was arranged for on the following day when the casting would be ready and before any periapical discomfort would arise. The area was anaesthetized and a barbiturate sedative administered to the patient. The post preparation was irrigated and dried, whereupon the post crown casting was cemented in after reducing it to obtain sufficient occlusal clearance for a jacket restoration. Impressions were then taken for a porcelain jacket crown and a temporary plastic crown was placed.

A semilunar mucoperiosteal flap was

raised and, surprisingly, the point of entry was clearly marked by the tip, about a millimetre long, of a root canal instrument in the apical cortical bone. This tip, perhaps, caused the apical resorption. The apices of the root and post were levelled and the area curetted, irrigated and sutured. The post-operative condition of the tooth is shown by the radiograph in Figure 2.

CONCLUSION

Two advantages were gained by obliterating the root canal with a post crown. First, it eliminated the need to rely on the existing root canal filling particularly when an apicoectomy was required. Second, a permanent restoration and good cosmetic result were effected in a day.

208 Medical Dental Building

Unusual Example of Inostosis

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This report is of an example of extreme inostosis of the dental pulp, known otherwise as spontaneous or idiopathic inter-

mittent resorption. In this condition resorption of calcified tissues as well as deposition of new calcified tissues similar to bone, cementum or dentine take place. Both may be present in the overall lesion, but in individual areas they appear to

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alternate, producing a mosaic-like pattern in the new hard tissues.

Case History.—The patient was a 30-year old man who, in the winter of 1954, fell while skiing. The right side of his face was badly lacerated and at the time it took two weeks for the swelling of his face to subside, but at no time were his teeth particularly sensitive. No radiographs were taken and no other dental treatment was done on the upper right second molar until December 4, 1959, at which time a small occlusal pit cavity was present. This was prepared for a restoration and in doing so the pulp chamber was found to be within one millimetre of the occlusal surface. There was haemorrhage from the pulp indicating its vitality and this was treated by capping with calcium hydroxide and covered by a temporary cement restoration. The tooth was asymptomatic for one month until January 6, 1960. At this time the tooth was very sensitive to percussion and there was a draining abscess on the

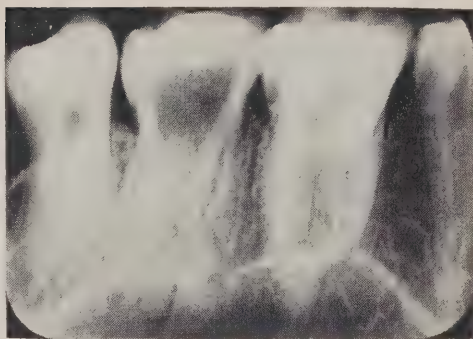


FIGURE 1

overlying buccal mucosa. The tooth was extracted with no postoperative complications.

DISCUSSION

The accompanying radiograph (Figure 1) was taken at the time of extraction and shows extensive resorption of the coronal dentine and part of the root structure. In the resorbed area there is a faint, hazy trabecular pattern. Unfortunately no radiograph exists to show the state of the tooth prior to the accident in 1954, so it can not be proven that the skiing accident was the cause of the resorption. The adjacent first and third molars are still in position and are asymptomatic.

The tooth was decalcified and histological sections prepared. Figure 2 is a bucco-lingual cross section showing the extent of the lesion. There has been widespread resorption of dentine throughout the entire crown and buccal root and extending part way in the lingual root. Concurrent with this resorption there has been a very active deposition of calcified tissue which in places resembles cementum and elsewhere looks like bone. This tissue has replaced much of the dentine and appears as a labyrinth similar to cancellous bone. A point of special interest is that this tissue has replaced the entire buccal root (see Figure 3), the only remaining tissue of the original root being some of the investing cementum.



FIGURE 2

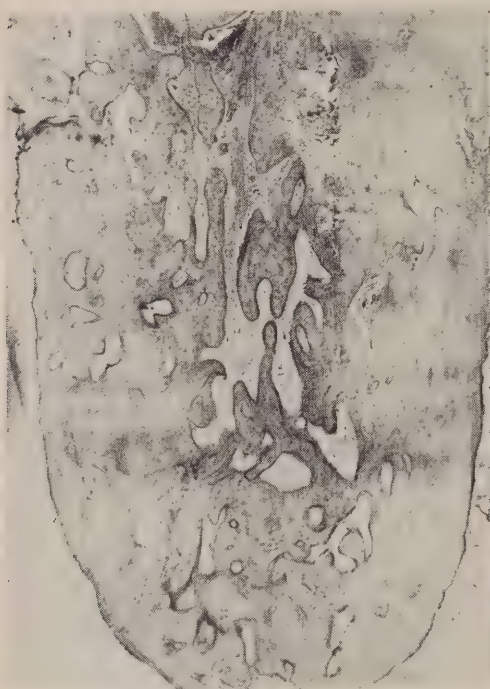


FIGURE 3



FIGURE 4

The entire coronal portion is now necrotic and the interstices contain only pus and cellular debris. The soft tissue replacing that of the original pulp can be seen in the root portions. It is very vascular and fibrillar and shows a superimposed neutrophilic infiltration. Occasional giant cells of the odontoclast type are scattered in the resorbing areas suggesting that dissolution of calcified tissues is being accomplished by both the odontoclastic and vascular resorption processes.

The area marked "A" is the only remnant of the original pulpal wall in the crown and is represented by a fragment of predentine.

The large opening in the occlusal sulcus is the space occupied by the temporary cement filling placed a month ago. A few

granules of calcium hydroxide can be seen in it. The complete lack of healing response on the part of the pulp to this capping procedure, is to be noted.

In the crown the resorptive process and subsequent deposition of calcified tissue has not reached the dento-enamel junction except for the tip of the buccal cusp (not seen in Figure 2). The process probably stopped because of the intervening suppuration. Had it not done so it is possible that the overlying enamel would, in time, be resorbed.

Figure 3 also illustrates an interesting point in that the periodontal membrane has remained intact. Serial sections show no evidence of any ankylosis of the root to the alveolar bone.

Figure 4 shows part of the palatal root containing vital soft tissue in the apical

portion and grading through to complete necrosis towards the pulp chamber. The canal has been extensively widened by resorption right to the apex and subsequently filled in again by osteocementum tissue. Some scattered diffuse dystrophic calcification from the original pulp tissue still remains as a dark mass.

CONCLUSION

The case is that of extreme inostosis of the upper right second molar remaining asymptomatic throughout its course and upon which was superimposed a secondary terminal suppuration.

124 Edward Street

Two Unusual Oral Surgical Cases

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A correct and rapid diagnosis is essential in all fields of surgery. An adequate case history and careful clinical and laboratory examination of the patient are necessary for the establishment of a correct diagnosis. With this thought in mind, two interesting cases are presented here with complete case histories and laboratory findings.

CASE NO. 1—GIANT FOLLICLE LYMPHOMA

History and Examination.—A 37-year old white female was first seen in the outpatient department (Oral Surgery) of the Doctors' Hospital, Toronto, on August 1, 1960 with a chief complaint of swelling in the left submaxillary region. This woman was perfectly well until five weeks before attending the hospital, when she first noticed the lump. There was no discomfort, but the mass appeared to be increasing in size gradually. There was no pain associated with eating. Also there were no other symptoms and the patient had experienced no previous opera-

tions or illnesses. She was married and had two children. Her father had died of a heart condition at a very old age.

On physical examination she appeared to be a well nourished, normally developed female in no apparent distress. In the left submandibular region there was a firm, freely movable mass, not adherent to the skin or underlying tissues. It was in, or superficial to the submaxillary salivary gland and measured one inch in diameter. It was not tender and the overlying skin was normal in appearance. The chest was clear to percussion and auscultation. Heart sounds were normal and the blood pressure was 140 systolic and 80 diastolic. The gastro-intestinal, genito-urinary and nervous systems were normal. The differential diagnosis based on the history and examination included lymphoma, tuberculous lymphadenitis, non-specific lymphadenitis, secondary carcinoma, or actinomycosis.

The patient was admitted to hospital on August 1, 1960 for excision biopsy of the mass in the neck. Preoperative laboratory findings were as follows: haemoglobin 13.0 Gm. per cent; white blood corpuscles 5.6 thousand per cubic millimetre; red blood corpuscles 4.2 million per cubic millimetre. The urine had a specific gravity of 1.027 and pH 6. No albumen or sugar was detected.

Surgical Procedure.—On August 2, 1960, following premedication of sodium pentobarbi-

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tal, gr. 1½ on the preceding night, and atropine, gr. 1/150 together with morphine, gr. 1/6 given one hour preoperatively, the patient was brought to the operating theatre. Anaesthesia was induced with sodium thio-pental and maintained with nitrous oxide, oxygen and trichlorethylene. The surgical site was prepared with cetyltrimethylammonium bromide detergent (*Cetavlon*) and sterile drapes were applied in the usual way. An incision two and one half inches long was made parallel with the lower border of the mandible over the mass. Using sharp dissection the mass was quickly exposed and removed. It was round, smooth and measured one inch in diameter and was situated directly lateral to the submaxillary salivary gland.

The wound was then closed in layers, the deeper layers with 000 plain cat gut and the skin with 0000 black silk. A pressure bandage was applied and the patient was returned to the recovery room in good condition. The following postoperative orders were given: Demerol, 75 mg. I.M. q4h, sips of clear fluid, diet as tolerated, and an ice bag applied to the left side of the neck, 30 minutes on and 30 minutes off for 6 hours. The patient was confined to bed for the remainder of the same day.

Microscopic examination of the mass confirmed the diagnosis of giant follicle lymphoma.

Postoperative History.—Arrangements were made for the patient to attend the Lymphoma Clinic at the Princess Margaret Hospital for regular check-ups.

On October 26, 1960, almost three months following the operation, examination revealed these additional findings: a small nodule in the right side of the neck and a small nodule in the left axilla. A decision was made at this time for the patient to be treated with irradiation to the nodes in the neck. On November 24, 1960 the course of treatment to the right side of the neck and left axilla was almost complete. All the previously noted nodes had disappeared.

On January 25, 1961, the cervical nodes were negative but the patient had freely movable 2 cm. right and left axillary nodes, right and left inguinal nodes and right and left femoral nodes. Examination of the abdomen revealed an enlarged spleen. Because of the excellent response in the cervical region, it was decided to irradiate from the xiphoid process to the lower edge of the femoral canal.

When re-examined on March 16, the patient was feeling much better. A residual large node about 2 cm. in diameter was felt in the right axilla and one small node in the right

preauricular region close to the angle of the jaw.

By March 24, the small node in the preauricular region on the right side had not progressed but a similar node on the left side had now become apparent. A small nodule in the left postauricular region which was tender on pressure was also noticed.

Because of the progression of her disease despite adequate radiotherapy, the patient was admitted on March 27 for nitrogen mustard chemotherapy, but since this tumour had always been radiosensitive, this mode of therapy was continued.

The patient has since returned to the Princess Margaret Hospital for treatment at regular intervals.

Discussion.—This variety of lymph gland enlargement is of importance because of its potentialities. Sixty-five per cent of cases progress to one of the more malignant lymphomas. Lymphosarcoma, either of lymphocytic or reticulo-endothelial cell type, is the most frequent, but Hodgkin's disease has also been reported to arise from this source. Radiation therapy is the best treatment, but constant observation must be made for possible future developments. The most significant histological feature of giant follicle lymphoma is the development of greatly enlarged follicles, not only in the peripheral portions of the lymph nodes where follicles are ordinarily found, but also in the central portions. Enlarged follicles may be seen not only in the lymph nodes but also in the spleen.

The tremendous importance of constant, keen observation in the case of giant follicle lymphoma cannot be over-emphasized, and this is exemplified by the postoperative history of this patient.

CASE NO. 2—GRANULAR CELL MYOBLASTOMA

History and Examination. — A 44-year old white, married female was first seen in the out-patient department (Oral Surgery) of the Doctors' Hospital on January 9, 1961 complaining of a hard lump on the left side of the mandible. This woman was in excellent health until six months prior to admission when she noticed the lump which she felt had been slowly enlarging. There was no pain or paraesthesia associated with this lump. The patient denied any previous operations or illnesses. Her physical condition was otherwise satisfactory, her pulse was regular at 90 per minute, and her blood pressure 100/70 mm. Hg. The chest was clear to percussion and auscultation. The abdomen was soft, with no tenderness. The liver was not palpable. The gastro-intestinal, genito-urinary and nervous systems were normal.

Dental examination revealed a firm symmetrical swelling of the alveolar process in the lower left cuspid-bicuspid region, buccal to the left cuspid and bicuspid teeth. The swelling measured 1.5-2 cm. in diameter. There were no palpable nodes. There were abundant calculus deposits and gingivitis involving the lower incisor teeth. Radiographically the bone appeared to be normal. The differential diagnosis based on the history and examination included osteoma, fibroma, fibrous dysplasia, or giant cell reparative granuloma.

The patient was admitted to hospital on January 9, 1961 for excision biopsy of the lump in the left mandible. Preoperative laboratory findings were as follows: haemoglobin 12.2 Gm. per cent; white blood corpuscles 6.8 thousand per cubic millimetre. The urine had a specific gravity of 1.026 and pH 6. No albumen or sugar was detected.

Surgical Procedure.—On January 10, 1961, following premedication with sodium pentobarbital, gr. 1½ on the preceding night, and atropine, gr. 1/100 together with Demerol, 50 mg. given one hour preoperatively, the patient was brought to the operating theatre, the surgical site was prepared and sterile drapes applied in the usual manner. Anaesthesia was induced with sodium thiopental and maintained with nitrous oxide and trichlorethylene. The mucoperiosteum was reflected from over the bony tumour. The tumour was easily removed from the lateral aspect of the lower left cuspid and first bicuspid teeth. Although the roots of these teeth were exposed and denuded of bone after the removal of the tumour, they were left in place in the hope that new bone would form. Four lower central incisors were removed at the same time because of severe periodontal involvement. The mucoperiosteum was sutured in place with interrupted black silk sutures. Haemostasis was adequate and the patient was returned to the recovery room in good condition. The following postoperative orders were given: sips of clear liquid, diet as tolerated, Demerol, 50 mg. q4h p.r.n., ice-pack applied to the left mandible, 20 minutes on and 20 minutes off alternately for six hours, and sodium pentobarbital, gr. 1½ h.s. p.r.n. Mild warm saline rinses b.i.d. were instituted twenty-four hours following the operation.

The submitted specimen consisted of four incisor teeth as well as three smaller pieces of bony tissue. A diagnosis of a granular cell myoblastoma was made on the basis of the microscopic findings.

Postoperative Course.—Following the surgical procedure, the patient recovered uneventfully and was discharged on January 11, 1961, subject to further regular follow-up through the out-patient department.

Discussion.—Myoblastoma is a benign, more or less circumscribed, nodular, usually small tumour which is slow growing and fairly well encapsulated. It is found as a nodule in the skin of various parts of the body as well as on the mucous membranes, particularly of the tongue. Histologically the tumour is composed of nests and alveoli of large cells with small centrally placed nuclei in cytoplasm loosely stippled with eosinophilic granules. The epithelium covering the growth may be atrophic or hyperkeratotic or may proliferate into the depth. In certain instances these tumour cells may display features of low-grade malignancy. In this particular case, the site of occurrence of myoblastoma was quite unusual, particularly with the associated involvement of bone.

SUMMARY

Two rare cases have been reported here. In the case of the giant follicle lymphoma, a dentist played a vital part in recognising the abnormality and referring the patient to a hospital oral surgery service for further consultation. The importance of constant observation in such a case, and the intimate co-ordination of medical-dental teamwork is emphasized.

The second case is of particular interest because myoblastoma is rare in this particular bony location.

Rapid diagnosis and treatment, with regular postoperative follow-up as provided by a hospital dental service has proven to be a thorough and efficient method of management for such cases.

REFERENCE

1. Anderson, W. A. D. Pathology. Ed 3. St. Louis, C. V. Mosby Co., 1957.

45 Brunswick Avenue.

ABSTRACTS

The Effect of High Concentrated Solutions of Stannous Fluoride on Human Gingival Tissue

J. C. MUHLER, D.D.S., Ph.D., R. P. SWIETERMAN, D.D.S., and
H. M. SWENSON, D.D.S., Indianapolis, Indiana

Due to the increased utility of stannous fluoride and its frequent use in adults, interest has been directed to the effect of this agent on gingival tissue with various types of pathology. No information has hitherto been available concerning this subject except the work of Muhler in which it was reported that in about 5 per cent of the cases treated with either an 8 per cent or 10 per cent solution of stannous fluoride, the peripheral portion of the interdental papilla was blanched if a gingivitis was present at the time of the topical application. Lal studied the gingiva after topical application of sodium fluoride or sodium chloride, and reported a slight shrinkage of the superficial layers of epithelium, but histological evaluation revealed no appreciable changes.

METHOD AND MATERIALS

Clinically evaluated normal and periodontally involved gingival soft tissues were obtained from patients at the clinic of the Indian University Dental School. The patients were of both sexes, ranging in ages from 18 to 69 years, and were equally divided between both the Negro and Caucasian races. Clinical and radiographic examination in addition to a

critical evaluation of the gingival soft tissue was made of each case and a diagnosis of the periodontal condition was recorded. The various types of periodontal cases used in this study included gingivitis, periodontitis, periodontosis, and a single case of dilantin hyperplasia.

A thorough dental prophylaxis was performed on each patient and Kodachrome photographs were taken so as to have permanent records for study. Application of either stannous fluoride, stannous chloride, sodium fluoride, or sodium chloride, at concentrations ranging from 2 to 20 per cent were applied immediately. The technique of topical application was identical to that described by Muhler, except the soft tissues, instead of the teeth, were treated with the respective solutions. The solutions were applied with a sterile cotton applicator.

After lightly drying the treated areas with warm air, a clinical examination was made of the gingiva and a second Kodachrome photograph taken. The treated areas were surgically removed with gingivectomy knives and the tissue placed in 10 per cent formalin. Tissue removals were accomplished at intervals of one to twenty-eight days following topical applications.

A control group of ten patients whose periodontal conditions were classified as normal, were also treated with stannous fluoride and included in this study. Of this group, four male patients with normal gingiva had tissue specimens removed at intervals of three, four, five, and six days after stannous fluoride application. Six patients had tissue removed at seven, fourteen, twenty-one, and twenty-eight day intervals.

All tissues were sectioned at 7 microns, and stained in Harris' haematoxylin and eosin, and mounted.

RESULTS

Gingival tissue treated with sodium chloride or sodium fluoride showed no gross or histological changes when compared to untreated gingiva.

Patients who received stannous chloride or stannous fluoride all demonstrated a white, shiny, smooth coating of the gingi-

va, principally at the gingival crest. The concentration of stannous fluoride appeared to have no correlation with the amount of gross coating produced on the gingiva.

From this study no apparent harmful effects to the gingival tissues were observed from the use of stannous fluoride solutions up to and including concentrations of 20 per cent. This coating disappeared within 24 hours without incident. Clinical response of the gingiva to 20 per cent stannous fluoride solutions varied in intensity with the amount of inflammation present at the time of the initial treatment. Histologically, there was noted a deeper staining of the superficial epithelium which also was proportionate to the amount of inflammatory cells present in the subjacent connective tissue at the time of the initial treatment. Cell morphology was not changed by either the stannous fluoride or stannous chloride.

Journal of Periodontology
Vol. 32 — No. 2 — April 1961.

Use of a New Improved Haemostatic Sponge in Oral Surgery

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J. LEMLER, D.D.S., and J. HEID, D.D.S., Durham, North Carolina

During the past year a new absorbable haemostatic surgical packing material (*Surgicel*, Johnson & Johnson) has been subject to clinical and laboratory evaluation. This surgical packing material, prepared from regenerated alpha cellulose with a uniform molecular weight lower than that of cotton and available in an oxidized form, was used in two forms —

either as a fabric or as a knitted strip. This oxidized cellulose material is prepared by the manufacturer in a uniform molecular size and weight insuring a uniform and predictable rate of absorption when implanted in the tissues. Because this material was soft and easily adaptable to any type of surface, it could be handled readily by the usual methods, usually with

the aid of a tissue forceps. This oxidized regenerated cellulose dressing is a poly-anhydrogluconic acid with an affinity for haemoglobin resulting in the formation of a gel with the blood in a pH range of 3.5 to 4.5.

METHOD

After the material was evaluated on laboratory animals which after 21 days showed no foreign body reaction, it was used on 1,036 patients after various oral surgery procedures. These procedures included single and multiple extractions, extraction of impacted teeth, alveoloplasty, management of gingival haemorrhage, excision biopsies, removal of cysts, and several other more extensive procedures

including radical neck dissection, cleft palate repair, excision of carcinoma of the mandible, meniscectomy, and maxillectomy.

No untoward effect from this material was noticed postoperatively, and bleeding was controlled easily. This material is now being used routinely for all impactions as well as in any bleeding regions that are of concern in the removal of cysts or after multiple extractions and alveoloplasties. Rapid absorption qualities as well as satisfactory haemostatic qualities with ease of handling were noted during this extensive clinical evaluation.

*Journal of Oral Surgery, Anesthesia
and Hospital Dental Service.
Vol. 19 — No. 3 — May 1961.*

Response of the Amputated Dental Pulp to Topically Applied Anorganic Bone

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The management of the exposed pulp remains a controversial subject. The complexities and disadvantages of complete removal of the pulp have stimulated interest in less radical methods of treatment of exposures. In particular, much effort has been expended on finding a drug which when applied to pulpal wounds would promote healing. The present work is concerned with this aspect of the problem.

MATERIAL AND METHOD

The present experiment examines the histological and clinical response of amputated human pulps which were dressed

with heterogeneous anorganic bone for periods of two days, ten days, twenty-eight days and fifty-six days respectively.

A total of twenty sound or slightly carious but vital teeth were used. Three cases were observed for two days, 4 for ten days, 5 for twenty-eight days and 8 for fifty-six days. All were from the mouths of adults whose ages fell between 18 and 44 years.

The tooth in question was anaesthetized with 2 per cent Procaine HCl and 1:50,000 adrenaline. For lower teeth, inferior dental and long buccal injections were used; for upper molars, subperiosteal injections were used; and for upper anteriors, infiltration.

To maintain a dry field, the tooth was isolated with a rubber dam. The rubber dam and the tooth surfaces were sterilized with tincture of iodine. Using sterile instruments a cavity 1 millimeter deep was cut into the dentine and extended to give easy access to the pulp chamber. The dentine fragments and chips resulting from the cavity preparation were removed as far as possible with an air blast. The tooth and the cavity were then thoroughly swabbed with tincture of iodine followed by absolute alcohol and allowed to dry.

The remainder of the experiment was carried out with a separate unit of autoclaved instruments and materials. The roof of the pulp chamber was removed and the amputation of the coronal portion of the pulp was accomplished with a No. 7 round bur revolving approximately at 1,500 revolutions per minute. The debris in the cavity was removed by irrigation with sterile normal saline. The pulp wound was then dried with sterile cotton pellets.

The extent of the haemorrhage from the pulp was then noted. Occasionally the haemorrhage from the pulp wound was controlled with sterile cotton pellets held in place for two to three minutes under pressure.

At this stage as a check of sterility of the wound, samples of blood were collected on cotton pellets for aerobic and anaerobic culture. The sample for aerobic culture was placed in Bacto-Dextrose broth and incubated for seventy-two hours at 37°C. On the appearance of a growth a sample of the culture was used to inoculate a 5 per cent blood agar plate which in turn was incubated for twenty-four hours at 37°C. On the appearance of a growth, a sample was used to inoculate a 5 per cent blood agar plate which was then cultured anaerobically for forty-eight hours at 37°C.

Immediately following the collection of samples, the amputated pulp was covered with autoclaved anorganic bone in the form of a paste mixed to a creamy con-

sistency with distilled water. A small piece of sterilized tin foil sufficient to cover the opening to the amputated pulp was then placed over the anorganic bone to prevent any irritation by the oxyphosphate cement. The cavities were finally sealed with silver amalgam.

Postoperative radiographs were then taken at right angles to the long axis of the tooth and in such a way that the central ray passed through the estimated position of the wound. The patient was then dismissed for the predetermined period.

On recall, in order to assess the clinical response, the patient was questioned as to any experience of pain. The responses to heat (tested by hot gutta-percha) and cold (tested by cotton pellets soaked with ethyl chloride) were noted, and a radiograph was taken at the same angulation as before.

Using local anaesthesia, the tooth was then extracted and the apical quarter of its root was removed with a diamond disc to facilitate fixation of the pulp in formol-saline. The tooth was then decalcified in formic acid and formalin following which the tin foil was removed before embedding in paraffin for sectioning. Sections were cut out at 6 microns and at intervals of 6 microns in the long axis of the tooth. Selected sections were stained with haematoxylin and eosin, Masson's trichrome and Van Gieson's stain.

RESULTS

The clinical and histological response of amputated human pulps to topically applied heterogeneous anorganic bone showed this material to be acceptable to the host both clinically and histologically. In contact with vital pulp tissue it induces the deposition of collagen which in two instances showed signs of calcifying.

At fifty-six days, however, no new odontoblasts were visible and in only the two instances cited was there any suggestion of calcification of the collagen surrounding the particles of anorganic bone.

The anorganic bone itself appears to remain unchanged being finally surround-

ed by homogeneous collagen. The continuity of many particles similarly surrounded does form a collagen bridge but in experiments conducted for fifty-six days there

was only slight evidence of its calcification.

British Dental Journal.
Vol. 110—No. 7—April 4, 1961.

Chewing Gum as a Vehicle for the Administration of Fluoride: Studies with F¹⁸

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B.D.S., F.D.S., London, England

Chewing gum is suggested as a vehicle for the topical application of fluoride to children's teeth. Essential requirements of such a gum are that sweetening agents should have no cariogenic activity and that there should be a low calcium content. The formula for a suitable chewing gum is detailed.

TABLE 1 Formula for the chewing gum

Constituents	Per cent
Special chewing gum base	28
Staybelite Ester N/10	18
Sorbitol	24
Potato starch	28
Saccharine	0.3
Vanilla	0.15
Ol.menth.pip	1
Ol.menth.virid.	0.55
	100

The preparation of F¹⁸, the incorporation of stable and radioactive fluoride into the gum and the methods used for radio-

activity measurements are described.

Chewing experiments showed that 80 per cent to 90 per cent of F¹⁸ was released from the gum in 10 to 15 minutes. The uptake of fluoride by a premolar tooth was about 20 mμg. after 10 minutes chewing of gum containing 100 μg. of fluoride. The rate of release of fluoride was not affected by the addition to the gum of 5 per cent calcium carbonate but the addition of 2 per cent citric acid caused the retention of a large fraction of fluoride. This was offset by a higher uptake by the teeth. Stannous fluoride was released slightly more rapidly from the gum than sodium fluoride, but there was no evidence of a difference in uptake by the teeth.

The results presented suggest that little isoionic exchange with enamel fluoride occurred and that the measured uptake represents a true increase in the fluoride content of the enamel. Proof of this will depend upon chemical analysis of enamel exposed to fluoridated chewing gum over long periods.

British Dental Journal
Vol. 110 — No. 4 — Feb. 21, 1961

Pre- and Posteruptive Inhibition of Experimental Rat Caries by Fluorine Administered in Water, Milk and Food

KLAUS G. KONIG, Zürich, Switzerland

Administration of sodium fluoride in drinking water, milk and food resulted in a significant increase of skeletal fluorine levels in young rats when given to the mothers during pregnancy and lactation as well as when given to the young themselves during a twenty-day cariogenic period. Caries inhibition, however, was not observed in the young rats given fluorine during tooth development, but only when fluorine was given posteruptively together with the cariogenic diet.

In the two-generation experiments the comparison of skeletal fluorine values in the mothers with the amounts of fluorine stored in their young strongly confirmed the effect of the partial barrier to fluorine formed by the placenta (Buttner and Muhler, Ericsson and Ullberg). The efficiency of fluorine administration in connection with cariogenic diet seems to stress the importance of local anticaries effects.

Helvetica Odontologica Acta
Vol. 4 — No. 2 — October, 1960

The Effects of Oral Hygiene and Sweet Consumption on the Prevalence of Dental Caries

J. N. MANSBRIDGE, I.D.S., Ph.D., Edinburgh, Scotland

A preliminary study was made in 1959 on dental caries prevalence in relation to oral hygiene standards, frequency of toothbrushing and consumption of sweets and chocolate in 426 randomly selected day-school children aged 12-14 in Ayrshire, Scotland. The objectives of the study were to determine whether oral hygiene as assessed at time of examination and the frequency of toothbrushing were related to the prevalence of dental caries.

The author found significant differences in the prevalence of caries between those whose standard of oral hygiene was "good" compared with those whose standard was classed as "neglected". The categories were defined as follows:

- | | |
|-----------|---|
| Good | —Teeth were clean and free from staining. |
| Neglected | —Food debris (not of recent origin), materia alba and/or staining of accessible tooth surfaces was present. |
| Fair | —Intermediate between the two extremes. |

Toothbrushing frequency and standards of oral hygiene generally showed association. Increased consumption of sweets and chocolates was significantly associated with increased caries prevalence.

British Dental Journal
Vol. 109 — No. 9 — November 1, 1960

EDITORIALS

Seventy-Five Years of Dentistry in Switzerland

This year—March 7 to be exact—marks the seventy-fifth anniversary of the founding of the Swiss Dental Society and the beginning of scientific and professional dental organization in that central European nation. The event was suitably observed at the recently concluded Jubilee Congress held in Basle. For it was early in 1886 that a meeting was held in Zürich, the country's largest city, for the purpose of organizing the original Swiss Odontological Society. Two years later the young society obtained legislation from the federal legislative assembly which placed the practice of dentistry on an equal footing with other health professions and paved the way for the establishment in 1888 of the federal diploma examination in dentistry, the basis of dental licensure in Switzerland.

On account of her unique trilingual German, French and Italian make-up, Switzerland has traditionally exerted far greater influence in the world than would otherwise be the case for a small nation. Community of language has enabled her scientists and her men of letters to serve in foreign universities, publish articles and books abroad, and spread their knowledge and thoughts far beyond the borders of

their native land. At the same time she has benefited by the reciprocal flow of ideas which accrues from such interchange.

The name of Alfred Gysi is recognized the world over as one of the pioneers of modern prosthodontics. Others like Mühlemann and Baume have held teaching appointments in North America and elsewhere, the latter having spent a considerable period of time in San Francisco. Still others like Held, Schmid-Kunz, and Freihofer have made their mark in dental research, public health and international dental organizations. A very handsome jubilee issue of the *Revue mensuelle suisse d'Odonto-Stomatologie* (Swiss Dental Journal) published in May of this year traces the evolution and development of prosthodontics, operative dentistry, oral surgery, periodontics and orthodontics in Switzerland from 1886 to 1961.

Of more than passing interest to Canadian dentists are the contemporary socioeconomic problems confronting our colleagues in Switzerland. Growing public acceptance and demand for dental care, the increasing shortage of dentists, and the student recruitment problems experienced by the nation's four university

dental schools at Basle, Berne, Geneva and Zürich have created serious problems for the profession. Superimposed upon a governmental structure composed of twenty-two cantonal and one federal administration, this gives rise to a situation which is familiar to us in Canada. Small wonder that the efforts of dental mechanics desiring to deal directly with the public finally met success as a result of a public referendum conducted by the canton of

Zürich last year. A recent federal court order which invalidates this action is reminiscent of similar events here at home.

Dentistry in Switzerland and Canada shares a common problem and a common goal. For this reason, the methods adopted to resolve the problem in one country will be watched with more than usual interest in the other. In the meantime we extend congratulations and best wishes to the Swiss Dental Society on the occasion of its seventy-fifth anniversary.

Fluoridation: Powder or Diplomacy

Fluoridation of public water supplies still encounters strong resistance in various parts of Canada. Should dentists, physicians and members of other health professions step into the firing line and wage a more aggressive campaign or should they play a more passive role in relation to this issue? Let us consider the various factors which bear on this question.

The events which have established the fluoridation of public water supplies as our most effective weapon in the fight for prevention and control of dental caries fall into four consecutive phases. First came the observation of a developmental enamel defect, subsequently known as fluorosis, with concurrent observation of diminished caries susceptibility. This triggered a search for the cause of both phenomena. The next phase was marked by identification of the fluoride ion as the causative agent and establishment of the level of fluoride in water conferring protection against dental caries without incurring fluorosis. The third phase was represented by duplication of the benefits derived from naturally occurring fluorides through mechanical adjustment of

fluoride levels in water with insufficient or excessive amounts of this material. The present and final phase consists of the advocacy of water fluoridation for the benefit of the public.

It is on the basis of a most impressive body of facts, built up through years of painstaking research and experimentation conducted by many distinguished scientists, that the adoption of this desirable public health measure is advocated. Yet despite the scientific evidence, despite the verdicts of government commissions and the dictates of ordinary logic, public acceptance has been lukewarm and opposition continues unabated.

Part of the difficulty resides in the unspectacular nature of the problem which fluoridation seeks to arrest. If the consequences of dental neglect were more immediate and more dramatic, the attitude of the public might be different. As it is, a great many people are still not unduly alarmed about dental ill health which they regard, except in its terminal stages, as a necessary evil. This makes fluoridation an ideal subject for the person who seeks a public issue or controversy in order to achieve recognition.

The reaction of the professional groups concerned with this problem has been to stress the need for greater educational efforts. This has sometimes been pursued with an almost militant zeal, so much so that persons with normally quiescent fears have been aroused by the manner in which the issue is presented. While no one would deny the need for public education, the fact remains that those who are strongly opposed and those who utilize fluoridation as an issue for their own purposes are totally unimpressed by scientific or other arguments. Some recent studies concerned with opposition to fluoridation have even indicated that where there is public dissatisfaction with governmental service, this feeling may be used by opponents of fluoridation to gain support for their cause. These people are quite immune to education and it matters little to them that another generation of young Canadians is being deprived of the benefit of a healthy dentition. For them fluoridation is "dangerous, immoral, unconstitutional or unscriptural". The more heated the public argument, the more fuel added to the flames, the better the climate in which they flourish. Thus it is hardly surprising that the average layman finds it impossible to separate fact from fallacy and prefers no action rather than a "wrong" action.

The most immediate problem in gaining acceptance of fluoridation lies in harnessing public support on a broad basis. The efforts of a few dedicated individuals are of little avail as long as the general public remains indifferent to the need for this measure.

Then too, there are increasing signs of public suspicion and resentment over some of the more forceful actions taken by some members of the health professions. Perhaps the time has come when the professions should retire from the front ranks and let others, influential and respected leaders from business and public life, from industry and labour, assume the main burden of soliciting public support. This is not to say that the professions should rest on their laurels, doing nothing until somebody else starts something. Members of the health professions, individually and collectively, should seize every opportunity of encouraging others in the community to take action. Moreover, they should be prepared to offer technical assistance and information as required.

But the main stimulus should come from citizens' committees, led by influential respected laymen, and carefully organized down to the neighbourhood level. This is a long-term process and the results will not be immediately evident. More significant, however, is the need for discretion. In this connection it would be well to recall that many lasting results are achieved by continuing efforts channelled through the medium of personal social contact. This opens a door for participation by every dentist.

An approach to the problem along these lines would seem to be more meaningful than the sporadic, heated, public campaigns which have characterized the fluoridation issue in the past. Let us not be too hasty with powder. What are needed are more strategy, tact and the exercise of diplomacy.

DENTAL PERSONNEL IN CANADA

In January 1961, 5,865 dentists were registered in Canada. — C.D.A. Bureau of Economic Research.

DENTISTRY IN THE NEWS

Canada and the Provinces

KEENAN NAMED PRESIDENT-ELECT

M. V. J. Keenan of Sudbury, Ontario, has become president-elect of the Canadian Dental Association. He was elected at the recent Saskatoon meeting of the Board of Governors. Active in community and dental affairs for many years, Dr. Keenan is immediate past president of the Royal College of Dental Surgeons of Ontario. Dr. Keenan will preside at the annual meeting in Toronto in May 1963.

SASKATCHEWAN DENTIST NEW HONORARY MEMBER

Dr. A. A. B. Kenney, of Maple Creek, Saskatchewan, received honorary membership in the Canadian Dental Association during the recent annual meeting in Saskatoon.

In presenting the award, past-president J. P. Whyte remarked: "This year we recognize a general practitioner serving a rural area quietly, conscientiously, and with sincerity, for 41 years". Dr. Kenney graduated at Toronto in 1915. Following wartime service, during which he served with the British army in Siberia, he began practising at Maple Creek.

"In honouring Dr. Kenney," said past-president Whyte, "we also honour all those men practising in relatively isolated, rural communities, who cannot participate to the same degree in provincial and national affairs of our profession as those who live in larger centres."

C.D.A. REAFFIRMS FLUORIDATION APPROVAL

Fluoridation of water supplies has again received the approval of the Canadian Dental Association. At its recent meeting in Saskatoon, the Board of Governors reiterated its long-standing endorsement of water fluoridation.

Noting that studies carried out over many years establish fluoridation as safe and effective in reducing dental caries, the

resolution passed by the Board recommends that communities with public water supplies adopt fluoridation.

Another statement adopted by the Board on recommendation of the Council on Research says that the use of fluoride tablets or of concentrated fluoride solutions in the home is worthy of further investigation but must not be considered as a substitute for fluoridation of water supplies.

MCGILL STUDENTS WIN WAR MEMORIAL AWARDS

Two 1961 graduates of the McGill University Faculty of Dentistry have been named winners of C.D.A. War Memorial prizes. First prize of \$200 went to Ronald Fletcher of Montreal. Another Montrealer, George Saleh, received second prize of \$100.

War Memorial awards are given to winners of an annual essay competition open to final year dental students at Canadian dental schools. Title for the 1961 competition was "An appraisal of antibiotic therapy in dentistry". The two winning essays will appear in future issues of the *Journal of the Canadian Dental Association*.

RESEARCH COUNCIL GRANTS \$11,500

Grants totalling \$11,500 to dentists and dental students have been awarded by the Council on Research of the Canadian Dental Association. Four dentists and eight undergraduate dental students were awarded funds to support research projects.

All Canadian dental schools are represented by the award-winning students who are working on research projects during the summer vacation. Aim of the grants is to give students experience which could encourage their interest in becoming teachers and research workers after graduation. This studentship program is operated by the Council on Research with funds granted annually by the C.D.A.

C.D.A. HEADQUARTERS TO BE ENLARGED

The Toronto headquarters of the Canadian Dental Association is to be enlarged by a modern two-storey structure at the rear of the present building. At its June meeting, the Board of Governors approved prelimi-

nary plans for the addition. The Board rejected a resolution calling for changing the headquarters location to Canada's capital at Ottawa.

Completion of the addition is not expected this year because final plans are yet to be drawn, municipal approval obtained, and tenders called.

EMERGENCY HEALTH SERVICES COURSE FOR DENTISTS AND PHYSICIANS

The Emergency Health Services Division, Department of National Health and Welfare, will conduct its next Physicians' and Dentists' Indoctrination Course (Course No. 558) at the Canadian Civil Defence College, Arnprior, Ontario from November 20-24, 1961.

This course is open to all members of the dental and medical professions in Canada. Travel expense in connection with attendance, as well as accommodation and subsistence while at the Civil Defence College, is paid by the Department of National Health and Welfare.

Candidates may be nominated by provincial and municipal authorities, by industries, and by professional societies and similar organizations.

In the cases of provincial and local professional societies, universities, etc., nominations should be made to the director of the provincial emergency measures organization concerned. An individual wishing to attend the course may make his request directly to the provincial emergency measures organization.

Names and addresses of directors of provincial emergency measures organizations are as follows:

Brig. J. F. A. Lister,
Director,
Provincial Emergency Measures Organization,
Parliament Buildings,
Victoria, British Columbia.

Mr. J. A. Lavoie,
Director,
Provincial Emergency Measures Organization,
10320-146 Street,
P.O. Box 275,
Edmonton, Alberta.

Mr. J. O. Probe,
Director,
Provincial Emergency Measures Organization,
Dept. of Social Welfare Building,
4th Floor,
Albert Street,
Regina, Saskatchewan.

Mr. A. Bentley,
Director,
Provincial Emergency Measures Organization,
515 Norquay Building,
Winnipeg, Manitoba.

Commander E. F. Bevis,
Director,
Provincial Emergency Measures Organization,
Department of Planning and Development,
5th Floor, 454 University Avenue,
Toronto, Ontario.

Maj. Gen. H. N. Ganong,
Director,
Provincial Emergency Measures Organization,
Department of Municipal Affairs,
Queen Hotel Building,
Fredericton, New Brunswick.

M. Léandre Lacroix,
Director,
Provincial Emergency Measures Organization,
Parliament Building,
Quebec, P. Qué.

Mr. R. Douthwaite,
Director,
Provincial Emergency Measures Organization,
Chronicle Building,
93 Granville Street,
P.O. Box 1502,
Halifax, Nova Scotia.

Maj. Orin Simons,
Director,
Provincial Emergency Measures Organization,
P.O. Box 2000,
Charlottetown, P.E.I.

Maj. P. J. Cashin,
Director,
Provincial Emergency Measures Organization,
Buckmasters Field,
Building No. 2, P.O. Box 277,
St. John's, Newfoundland.

DENTISTS SUPPORT RECRUITMENT

Eighty-two per cent of Canadian dentists are willing to encourage suitable young people to consider dentistry as a career, according to a recent survey. The survey, conducted by the National Recruitment Committee of the Canadian Dental Association, attempted to determine dentists' attitudes toward a national recruitment program. Fifty-five per

cent of the questionnaires, sent to all members of the C.D.A., were returned.

Of those who replied, 91 per cent believe there is a national shortage of dentists while 40 per cent think local shortages exist.

Results of the survey indicate that the large majority of dentists will assist in recruitment efforts. One of the aims of the national recruitment program is "to stimulate dentists to act positively and aggressively to encourage young people to seek careers in dentistry". Recruitment committees across Canada should be encouraged to provide all possible help to individual dentists, who have shown their willingness to encourage young people to seek dental careers.

C.D.A. BOARD OF GOVERNORS APPROVES RECRUITMENT REPORT

Meeting in Saskatoon in June, the Board of Governors approved the progress report of the National Recruitment Committee. The report will appear in the 1961 Transactions of the Canadian Dental Association as Appendix A of the Council on Education report.

The Chairman and Secretary of the National Recruitment Committee met recently to assess the present status of recruitment efforts in Canada and to review activities carried out since the Committee met in January. Most of the tasks assigned at the meeting have been completed or are underway.

The survey of the profession's attitude toward recruiting suitable students to dentistry will be reported in detail later. Highlights of the results were added to the report to the Board of Governors. Detailed results have been supplied as background material to the author of a new pamphlet which is being prepared for distribution to the profession. It is planned to release survey results to the dental and public press for early fall publication.

"A New Day in Dentistry," a sound and colour film depicting an interesting day in the life of a dentist, has been added to the C.D.A. film library. It is particularly suitable for showing to secondary school students.

Speakers' kits became available for distribution this summer. Each kit contains a copy of C.D.A. recruitment booklets and pamphlets, a speech outline, and latest statistical information about the dental profession in Canada. Speakers' kits are available from C.D.A. headquarters free of charge to interested dentists.

These and other recruitment activities were reviewed by the chairman and secretary preparatory to formulating an agenda for the next meeting of the National Recruitment Committee. It is expected that members of the national Committee will be well prepared to report activities in the regions for which they are responsible.

'HIGH NEWS' PAGE STIRS STUDENT INTEREST

Requests for the booklet "Advantages of Careers in Dentistry" are still being received as a result of the dentistry page in the annual careers issue of "Canadian High News." This special issue devoted to career information has a circulation of over 100,000 in secondary schools across Canada. About 200 coupons have been clipped from the dentistry page and sent to C.D.A. headquarters requesting copies of the careers booklet.

For the fourth consecutive year, the page has been sponsored by dental supply houses with C.D.A. co-operation. Coupons returned provide a view of provinces and grades of students interested in dentistry, as shown in the tables below.

TABLE 1 Classification by grades of "Canadian High News" dental coupons returned.

School or grade	Number of replies
Public school	8
Secondary school	
Grade 9	38
10	28
11	48
12	34
13	17
Others	15
TOTAL	188

TABLE 2 Classification by province of "Canadian High News" dental coupons returned.

Province	Number of replies
Newfoundland	2
Prince Edward Island	—
Nova Scotia	13
New Brunswick	4
Quebec	23
Ontario	77
Manitoba	11
Saskatchewan	21
Alberta	18
British Columbia	19
TOTAL	188

RECRUITMENT CONSULTANTS NAMED

Two consultants from outside the dental profession, but connected with it for several years, have been appointed to the National Recruitment Committee. Miss Donna Leslie, a Toronto dental hygienist, has been named to represent the Dental Hygienists' Alumnae Association. Mr. Charles Pierce, vice-president of Ash Temple Limited and chairman of the Canadian Section, American Dental

Trade Association, is the other consultant. The Committee looks forward to a pleasant association and the invaluable advice of these two consultants.

Donald C. Steeves of Moncton, New Brunswick, has been appointed to the National Recruitment Committee replacing James O'Brien who resigned several weeks ago. Active in dental affairs of the Atlantic provinces, Dr. Steeves is a former president of the New Brunswick Dental Society. He graduated from Dalhousie University in 1948.

ALBERTA

Edmonton and District Dental Society. — A new executive was elected to office at the monthly meeting held in May 1961. The following were named as officers: G. T. Lindskoog, president; R. P. Mullen, president-elect; B. M. MacKenzie, past president; R. S. Van Alstine, secretary; D. M. Colinson, treasurer; J. G. Geddes, social convener; and J. R. Harms in charge of public relations. T. Demco and J. Sikora were named as directors.

Fourth-year students from the Faculty of Dentistry, University of Alberta presented an excellent demonstration in crown and bridge prosthodontics during the afternoon. The evening portion of the meeting was taken up with the reports of various committees and the election of officers.

ONTARIO

Meeting with Provincial Health Minister Regarding Dental Recruitment.—W. J. Dunn, registrar-secretary of the Royal College of Dental Surgeons of Ontario, and G. T. Mitton, field secretary of the Dental Public Health Committee of the Ontario Dental Association met with the Honourable M. B. Dymond, Minister of Health for Ontario, on June 20 to discuss the reported shortage of recruits for dentistry and medicine and the steps which are being taken to overcome this problem.

A brochure outlining dental personnel needs and the various recruitment activities of the profession was submitted to the minister. Six appendices were included. Appendix A provided patient-dentist ratios for 1931, 1951, and 1961. This showed a considerable worsening of the situation during the past thirty years. Appendix B showed the patient-dentist ratio by counties and districts for 1960. This indicated a slightly less favourable position than recorded for the previous year. A review of admissions to dentistry since 1956 was presented in Appendix C. This showed a significant increase in the number of applications received last year. It was felt that this was largely due to activities within the profession respecting recruitment and the minister was so informed.

It was also pointed out to the minister that the number of applications for entry into dentistry this fall will likely be as high as the numbers recorded last year and may possibly exceed the previous year's figure. The Dental Students Register, 1960-1961 was presented in Appendix D. Appendix E presented a brief outline of some recent recruitment activities in Ontario and Appendix F outlined the program at the national level being conducted by the National Recruitment Committee of the Canadian Dental Association.

Dr. Dymond indicated that it was most refreshing to view the concern of the profession in this matter and more particularly the positive efforts being made to meet the problems. In answer to a question from the Deputy Minister of Health who was also in attendance, Dr. Dunn indicated that one of the obstacles to recruitment was the concern in the minds of many respecting the future of health care services under governmental direction. In reply, the Minister pointed out that the teaching profession had been more or less operating under governmental direction for many years and apparently doing so reasonably well. He added that there is no doubt at all that "something" is coming in the foreseeable future. He further indicated that the health professions should be giving positive leadership in the development of plans and methods of providing health care services in order that the resulting programs will be fair and equitable to all parties.

PRINCE EDWARD ISLAND

Atlantic Provinces Dental Convention.—One of the most successful regional meetings was the recent Atlantic Provinces Dental Convention at Charlottetown, Prince Edward Island. The meeting, held from July 2 to 4, was under the chairmanship of L. I. Duffy.

The clinicians and their subjects included Captain A. R. Frechette, commanding officer of the U. S. Navy Dental School at Bethesda, Maryland who presented a clinic on prosthodontics; Dr. J. J. McCarthy of McGill University, Montreal, who spoke on oral surgery; Dr. J. J. MacConnachie of Dalhousie University, Halifax, whose subject was operative dentistry; and Dr. S. A. MacGregor of the University of Toronto, on the subject of paedodontics. Ten table clinics were presented on various phases of dental practice. Orthodontists from the Maritime provinces held a two day meeting during the convention. They were addressed by Dr. B. R. Ross of the Hospital for Sick Children, Toronto, who spoke on the aetiology, orthodontic diagnosis and treatment planning for the cleft palate child.

The government of Prince Edward Island tendered a dinner at which Premier Walter

Shaw was the principal speaker. One of the highlights of this function was the presentation of a scroll to Dr. Heath MacIntyre by the premier on behalf of the Prince Edward Island Dental Association. This was given in recognition of Dr. MacIntyre's outstanding services not only to the Prince Edward Island association, but also to the Canadian Dental Association, the Dominion Dental Council of Canada, and latterly the National Dental Examining Board of Canada.

The city of Charlottetown tendered a reception which was briefly addressed by Mayor W. A. Gaudet. Dean J. D. McLean of Dalhousie University addressed a luncheon meeting on the status of dentistry in Canada and the United States. Another luncheon meeting was addressed by Dr. H. D. McNeil, Minister of Health for Prince Edward Island, who described provincial activities in the health field. Dr. McNeil also expressed his support of fluoridation of communal water supplies.

During the convention a special meeting was held for the purpose of organizing a chapter of the Canadian Society of Dentistry for Children in the Atlantic provinces. J. P. McGuigan was named chairman of a committee with representatives from each province to organize such a chapter.

QUEBEC

La Société dentaire de Montréal. — A new executive was elected by members of the society at the last monthly meeting held on May 16. Named as officers for the year 1961-62 were: Claude Vachon, president; Florent Terriault, 1st vice-president; Jean Guimond, 2nd vice-president; Paul Manseau, treasurer; Roger Grégoire, secretary; Jacques Fiset, assistant secretary; and Guy Benoit, librarian. Named as councillors were: Claude Madore, J.-L. André Dalpé, J.-B. Meunier, and J. Latour. Jacques Bélanger becomes immediate past president.

The guest speaker of the evening was Dr. Jean-Paul Lussier, associate dean of the Faculty of Dental Surgery, Université de Montréal, who addressed the society on the subject "Trends in Dental Education."

International Items

AUSTRALIA

Establish Headquarters for Association. — The federal secretariat of the Australian

Dental Association has been established in the T. & G. Building, 49 Park Street, Sydney, New South Wales. The *Australian Dental Journal*, official publication of the Australian Dental Association, is published from the same address. J. M. Newton has been appointed association secretary.

The new headquarters will provide the dental profession in Australia with a centrally located site for the transaction of business and other activities of the association.

EIRE

Irish Move to Fluoridate.—Fifty per cent of the population of Ireland is serviced by community water supplies, and these people will soon start drinking fluoridated water. A national act has been passed in Ireland making it mandatory on local health authorities to "fortify piped water supplies with fluorine up to one p.p.m." The act prescribes that a preliminary dental survey must be made in each area prior to introduction of fluoridation. Such surveys are now being conducted in the Dublin, Kildare and Wicklow areas by the Irish Medical Research Council. There has been little public opposition to the measure, according to a health department source.

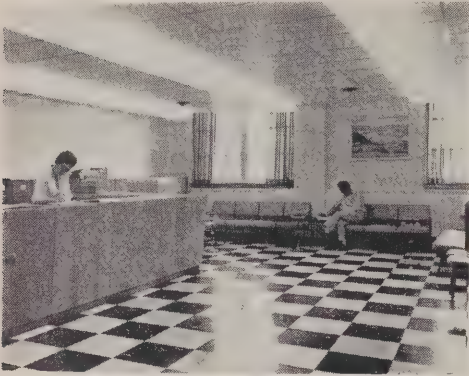
MEXICO

Mexican Dental Congress.—The sixth biennial National Dental Congress sponsored by the Mexican Dental Association will be held at University City near Mexico City, November 19-23. There will be forums, panel discussions and seminars. Translations from English and Spanish will be provided. Further information may be had from Dr. A. Chisikovsky Perkis, Asociación Dental Mexicana, Sinaloa No. 9, México 7, D.F., Mexico.

WEST GERMANY

The health needs of the population of West Germany are catered for by a network of *Krankenkassen* (sickness funds). There are some 2,000 of these funds, each of them independent and self-supporting, financed only by a contribution from employers and employees. Among them are a large number of industrial sickness funds providing for employees and their dependents at particular industrial plants. They are mostly small organizations, but the limited financial resources associated with small size are compensated by a sense of solidarity and partnership.

Under the German health insurance system "dental benefit" takes the form of free operative dental treatment and extractions, and a contribution by the sickness fund to the cost of dentures, crown and bridge



Faculty of Dentistry, University of Alberta. Reception room for oral diagnosis, screening, emergency and oral surgery departments at left. General clinic waiting room at right.

prosthodontics, etc. The patient goes to the dentist of his choice, receives whatever treatment is necessary, and where he requires a prosthetic appliance pays the difference between the dentist's fee and the amount paid by the sickness fund to the dentist. (From the *British Dental Journal*, Vol. 110—No. 12—June 20, 1961.)

Canadian Dental Schools

UNIVERSITY OF ALBERTA

Opening Ceremonies for the new Medical Sciences Building.—S. G. Geldart was chairman of the medical-dental convocation and chairman of the committee for the opening of the Medical Sciences Building, which events took place on June 2.

Dr. W. H. Johns, president of the University of Alberta presided at the opening ceremonies. Dr. D. J. C. Elson, dean of St. Stephen's College gave the Invocation. The Honourable Dr. J. Donovan Ross, provincial Minister of Health presented the key of the building to Dr. C. M. MacLeod, Q.C., chairman of the university's board of governors. Dean MacLean (dentistry) and dean MacKenzie (medicine) spoke on the use of the building in the future teaching of medicine and dentistry. Throughout the program music

was provided by the band of the Princess Patricia's Canadian Light Infantry under the baton of Captain A. H. Jeffrey, A.R.C.M., L.G.S.M., director of music. The opening ceremony was followed by an "open house".

At the medical-dental convocation, held at 2.00 P.M., an honorary LL.D. degree was conferred on H. K. Brown, dental consultant to the Department of National Health and Welfare. Dr. Brown is the first dental graduate of the University of Alberta to receive this honour. He was formally introduced by dean H. R. MacLean and after being invested, he delivered the convocation address, "The Health Professions and the Challenge of Widening Horizons and Changing Patterns." Twenty-four dental graduates received their degrees. The convocation was followed by a reception held at the Women's Faculty Club.

Research

WORKSHOP ON ADHESIVE RESTORATIVE MATERIALS

The National Institute of Dental Research of the United States Public Health Service has announced that a grant of \$9,600 has been awarded to Indiana University School of Dentistry to organize an initial workshop on the development of an adhesive restorative

material. The chairman for this workshop will be Professor R. W. Phillips of Indiana University School of Dentistry and the co-chairman Dr. Gunnar Ryge of Marquette University School of Dentistry. The workshop will be held at Indianapolis, Indiana, September 28 and 29.

The participants in this initial workshop will be by invitation only and will represent the various basic and applied sciences upon which the development of a truly adhesive dental material will depend. Experts in the fields of tooth structure composition, surface and polymer chemistry and test methods for

measuring adhesion have already been selected.

It has long been recognized that one of the dental research areas having a high priority for expanded investigation is that concerned with the development of a restorative material or cement that will adhere to tooth structure. This will be the first attempt to bring together interested and qualified people in the profession, industry and universities to explore the current knowledge and to establish recommendations for future fruitful research.

The entire proceedings from this two-day workshop will be transcribed and published.

IN MEMORIAM

J. Raoul Baril — Dr. J. Raoul Baril of Ste-Foy, P.Que. died on March 3, 1961. He was 61.

Dr. Baril was born at Gentilly, P.Que. He graduated from the Faculty of Dental Surgery, Université de Montréal in 1925.

Charles George Hewitt — Dr. Charles George Hewitt of Toronto, Ontario, died on June 27. He was 57.

Dr. Hewitt was born at Stouffville, Ontario in 1904. He graduated from the Faculty of Dentistry, University of Toronto in 1926. During World War II he served with the Canadian Army Dental Corps.

Surviving are his wife, Reta; two daughters, Mrs. A. Stokes and Mrs. K. Monkman; mother and father, Mr. and Mrs. G. Hewitt, and two grandchildren.

Bert Ahti Oja — Dr. Bert Ahti Oja of Winnipeg, Manitoba, died on July 13. He was 53.

Dr. Oja was born at Eveleth, Minnesota. He graduated from the University of Minnesota in 1936 and from the Faculty of Dentistry, University of Alberta in 1937.

During World War II he served as Captain in the Canadian Army Dental Corps. Dr. Oja

was a member of the Manitoba Dental Association and of the Winnipeg Dental Society.

Surviving are his wife, Evelyn; two sons, Jack and Bert; two daughters, Sandra and Patsy, and a sister, Mrs. R. W. O'Neill.

Louis Schachter — Dr. Louis Schachter of Montreal, P.Que. died on July 15. He was 67.

Dr. Schachter was born in Austria in 1894. He graduated from the Faculty of Dentistry, McGill University in 1919.

Surviving are his wife, Jennie; a daughter, Roslyn; three brothers, Lazar, Berel and Aaron, and three grandchildren.

Hans Joachim Schwabe — Dr. Hans Joachim Schwabe of Toronto, Ontario, died on July 4. He was 41.

Dr. Schwabe was born in Dresden, Germany in 1919. He received his early education in Germany and graduated from the University of Leipzig in 1948. He then graduated from the Faculty of Dentistry, University of Toronto in 1958.

Surviving are his wife, Rose; and mother, Mrs. G. Schwabe.

ANNOUNCEMENTS

Conventions of the Canadian Dental Association

1962	Vancouver, British Columbia	June 3-6
1963	Toronto, Ontario	May 19-22
1964	Edmonton, Alberta	June 28-July 1
1965	Quebec City, Quebec	May 30-June 2
1967	Toronto, Ontario	May
(Centennial Celebration of Dentistry in Canada)		

FUTURE EVENTS

Date	Function	Location	Officer	Address
Sept. 8-10, 1961	Northern Ontario Dental Association	The Armoury, Sault Ste. Marie, Ont.	Dr. T. G. White,	519 Queen St. East, Sault Ste. Marie, Ont.
Sept. 12-15, 1961	2nd Intl. Czechoslovak Stomatol Congress	Marienbad, Czechoslovakia	Dr. F. Urban,	Karlovo nam. 32, Prague 2, Czechoslovakia.
Sept. 17-19, 1961	Eastern Ontario Dental Association	Chateau Laurier Hotel, Ottawa	Dr. H. B. Squires,	142 Laurier Ave. West, Ottawa, Ont.
Oct. 13-15, 1961	German Dental Association	Mainz, West Germany	Dr. P. Jaeger,	Nikolaistrasse 2, Munich 23, W. Germany.
Oct. 16-19, 1961	American Dental Association	Philadelphia, Pennsylvania	Dr. G. N. Casto, Jr.	222 East Superior St., Chicago 11, Illinois.
Oct. 19-21, 1961	Japanese Assn. for Dental Science	Tokyo, Japan	Dr. Macaru Nagao,	4-6 Kudan, Chiyoda-Ku. Tokyo, Japan.
Oct. 23-25, 1961	Montreal Dental Club Annual Fall Clinic	Queen Elizabeth Hotel, Montreal	Dr. J. Vincelli,	6542 Somerled Ave., Montreal, P.Q.
Nov. 12-19, 1961	Uruguay-Argentine Intl. Dental Congress	Montevideo, Uruguay	Dr. J. C. Turrell,	Av. Agraciada 1464 (P.13) Montevideo, Uruguay.
No. 20-26, 1961	Congrès de l'Entente Odontologique	Porte de Versailles, France	Dr. J. L. Dephillepe,	39 Boulevard Malesherbes, Paris 8e, France.
Nov. 23, 1961	Academy of Dentistry, Toronto	Royal York Hotel, Toronto	Mrs. N. H. Montgomery,	230 St. George St., Toronto, Ont.
Dec. 27-31, 1961	Alpha Omega Fraternity	Queen Elizabeth Hotel, Montreal	Dr. F. Vosburg,	5292 Queen Mary Road, Montreal, P.Q.

POSTGRADUATE AND REFRESHER COURSES (CANADA)

TORONTO—The Faculty of Dentistry of the University of Toronto offers courses to graduates in dentistry, leading to specialist certification in the fields of DENTAL PUBLIC HEALTH, DENTAL ORAL SURGERY and ANAESTHESIA, ORTHODONTICS, PAEDODONTICS, and PERIODONTICS. Programmes of education and research leading to graduate degrees in the biological sciences related to dentistry may also be arranged. In addition, the following short postgraduate courses will be presented during the session 1961-62. For further details write to: The Chairman, Division of Postgraduate Studies, Faculty of Dentistry, University of Toronto, 124 Edward Street, Toronto, Ontario, Canada.

TORONTO—October 16-20, 1961—Occlusion and Occlusal Correction.

TORONTO—January 8-9, 1962—Paedodontics.

TORONTO—February 7-9, 1962—Anatomy: Normal and Pathological.

TORONTO—February 28-March 2, 1962—Endodontics.

TORONTO—March 5-9, 1962—Orthodontics.

TORONTO—April 23-27, 1962—Oral Surgery.

TORONTO—May 7-11, 1962—Periodontics.

POSTGRADUATE AND REFRESHER COURSES (U.S.)

ALABAMA—October 28-29, 1961—Dental Assisting.

ALABAMA—November 4-6, 1961—Complete Denture Prosthodontics.

ALABAMA—November 11-13, 1961—Clinical Oral Surgery.

ALABAMA—November 25-27, 1961—Root Canal Therapy.

TUFTS—September 29-October 1, 1961—Full upper and lower dentures.

TUFTS—October 2-5, 1961—Dental care for the handicapped child.

TUFTS—October 12, 19, 26, November 2, 9, 16, 1961—Oral cancer.

TUFTS—November 7-8, 1961—Inlay construction.

Other information concerning dental meetings outside Canada is available at C.D.A. Headquarters upon request.

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JOURNAL

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Migration des minéraux dans la carie de l'émail

par Z. MÉZI*, M.D., D.D.S., Montréal, P. Qué.

La décalcification est le processus le plus frappant dans la carie de l'émail parce qu'elle produit le symptôme principal clinique, le ramolissement, et détermine l'aspect de la lésion dans un examen radiographique, microscopique et autres. Mais il existe d'autres processus dans la carie: des processus altérant les minéraux et des processus altérant les matières organiques dans la lésion.

On connaît trois sortes de déplacement des minéraux dans la carie de l'émail.

1. Une migration des minéraux de la lésion à l'extérieur, dans la salive, produit la déminéralisation de la lésion.

2. Un déplacement des minéraux d'un endroit de la lésion à un autre endroit de la lésion ou de l'émail.

3. Une migration des minéraux de l'extérieur dans la lésion peut être appelée la reminéralisation au sens propre du mot.

LA DÉMINÉRALISATION

La migration des minéraux de la lésion à l'extérieur peut être mise en évidence par de nombreuses techniques d'examen. On considère trois mécanismes de la déminéralisation de l'émail¹:

La majorité des auteurs sont d'opinion que les minéraux sont dissous par les acides résultant de la fermentation des hydrates de carbone dans les plaques bactériennes.

Cette étude a été subventionnée par les octrois DE-8, D.A. 79 et 557 accordés par le Conseil National des Recherches du Canada.

*Professeur de pathologie buccale, Faculté de chirurgie dentaire, Université de Montréal.

Les ions de phosphate peuvent être enlevés par les enzymes, par la phosphorylation^{2,3,4}.

Le calcium peut être enlevé par la chélation, formation des chélates solubles^{4,5}.

La décalcification par les acides a été étudiée à tous les points de vue, qualitativement, quantitativement, in vitro, dans la bouche, et la littérature abonde en détails sur ce sujet. Les recherches démontrent que la formation des acides et la décalcification sont assez rapides et efficaces. Après un rinçage par une solution de glucose, l'acidité dans les plaques monte en quelques minutes au delà du pH 5 et reste là pour 30 minutes et plus¹. A un pH 5, 10% de la dent devrait se dissoudre en 5 jours, à un pH 4, 40%⁶.

Par contre, la carie est très lente. Les résultats des recherches théoriques ne correspondent pas toujours directement à la réalité pour les raisons suivantes:

La décalcification par la carie est périodique; elle s'arrête et recommence.

La décalcification dans la carie est combinée avec d'autres processus.

L'alimentation, la salive et les plaques bactériennes font varier extraordinairement les circonstances locales dans la lésion.

La déminéralisation peut procéder de deux façons:

Une zone superficielle de l'émail est décalcifiée et détruite, ensuite la zone sous-jacente est décalcifiée et détruite. Des lésions produites de cette façon-ci sont plutôt exceptionnelles.

Au cours de l'évolution de la carie, l'émail au-dessous et autour de la lésion se déminéralise d'abord légèrement et, ensuite, il continue à se décalcifier progressivement de plus en plus. Donc la déminéralisation se fait simultanément dans toutes les zones de la lésion. Les zones anciennes, près de la surface, sont les plus déminéralisées: les zones récentes en profondeur sont moins déminéralisées. Dans une lésion simple, la décalcification présente une gradation progressive bien régulière⁷.

La déminéralisation des parties profondes de la lésion est un processus compliqué et dépend de nombreux facteurs, comme la perméabilité de la plaque bactérienne et de la partie superficielle de la lésion, de la diffusion des acides et des minéraux, de la solubilité des minéraux, du pH, de l'échange ionique, etc.

Les minéraux enlevés de l'émail sain en profondeur doivent entrer dans la zone précédente partiellement déminéralisée. Une certaine quantité des minéraux sort finalement de la lésion et entre dans la salive en passant par la zone superficielle de la lésion et par la plaque bactérienne. (Cela ne veut pas dire que les molécules individuelles enlevées de l'émail sain en profondeur émigrent directement dans la salive.)

LE DÉPLACEMENT DES MINÉRAUX DANS LA LÉSION

Au cours de l'évolution de la carie, avant de sortir à l'extérieur, les minéraux sont déplacés d'un endroit de la lésion à un autre endroit de celle-ci où ils peuvent devenir visibles. En principe, nous pouvons distinguer deux genres de déplacement:

Les minéraux enlevés dans une partie profonde de la lésion se déplacent dans une zone moins profonde. Ceci se passe évidemment dans chaque lésion où la décalcification simultanée mentionnée ci-dessus est un progrès, mais les minéraux ne s'accumulent et ne se fixent pas toujours pour devenir visibles.

Les minéraux dissous dans une zone ayant subi la décalcification peuvent pénétrer dans une zone plus profonde ou bien dans l'émail sain autour de la lésion. Ce dernier cas est plus probable aux périodes où la décalcification s'arrête.

Les auteurs classiques expliquaient par le déplacement la formation des zones qu'ils ont observées dans les coupes microscopiques de la carie de l'émail^{8,9}. Des travaux récents⁷ ont démontré que certaines de ces zones ne sont que des artefacts de la technique microscopique. Mais dans certaines caries, des zones d'une

minéralisation relativement élevée peuvent être montrées même par les techniques modernes (microradiographie, examen avec lumière polarisée dans un milieu aqueux) ^{10,11}.

On peut évaluer la quantité relative des minéraux en différentes zones de la lésion. La plupart des techniques habituelles ne permettent pas de distinguer si une zone n'est que partiellement déminéralisée ou si elle avait été d'abord déminéralisée et ensuite partiellement reminéralisée.

Les conceptions des auteurs classiques sur le déplacement des minéraux ne découlaient que de déductions plus ou moins hypothétiques.

L'examen microscopique des bâtonnets d'émail coupés transversalement permet de constater qu'une certaine zone de la lésion avait été d'abord déminéralisée et ensuite reminéralisée¹². Néanmoins, on ne peut pas déterminer, par un simple examen, si les minéraux produisant cette reminéralisation locale proviennent de l'extérieur de la lésion ou s'ils sont déplacés d'un autre endroit de cette dernière.

LA RÉMINÉRALISATION

Il est reconnu depuis longtemps que la carie de l'émail peut s'arrêter avant la formation d'une cavité pour produire une tache foncée et dure, apparemment reminéralisée. On trouve dans la littérature des travaux montrant les possibilités de la reminéralisation^{13,14,15}, mais, d'autre part, il semble que la publication et surtout la technique d'Andresen ont discrédité cette idée pour un certain temps¹⁶. Des travaux récents prouvent par les techniques les plus modernes qu'il existe une migration des minéraux (phosphates) de la salive vers l'intérieur de la lésion^{17,18}.

Habituellement, la déminéralisation prédomine tellement dans la carie qu'on sous-estime la reminéralisation. Des observations de caries arrêtées montrent que, dans certaines circonstances, le mouvement des minéraux vers l'intérieur

de la lésion peut surpasser la déminéralisation¹⁹ et remplacer les pertes précédentes.

DISCUSSION

Après avoir considéré les migrations des minéraux, on réalise que l'aspect de la lésion dépend de leurs relations. La carie évolue à intervalles irréguliers, mais nous observons la lésion à un moment donné où, soit: la déminéralisation évolue (elle est arrêtée seulement par l'extraction de la dent observée); la déminéralisation s'est arrêtée (pour une période ou définitivement); la carie évolue vers une reminéralisation; la reminéralisation est terminée.

La situation peut être encore plus compliquée, par exemple: une déminéralisation profonde suivie d'une reminéralisation récente superficielle; une lésion profonde reminéralisée subissant une décalcification récente superficielle.

C'est pourquoi, l'aspect des lésions varie beaucoup d'après la phase évolutive de la carie au moment de l'extraction de la dent observée. (Nous supposons que les techniques d'examen ne déplacent pas les minéraux depuis l'extraction jusqu'à l'observation.)

La plupart des chercheurs ne tentent pas à déterminer la phase de la carie examinée et c'est pourquoi on trouve dans la littérature des contradictions. Par exemple, certains auteurs démontrent une zone hyperminéralisée autour de la lésion, tandis que d'autres, par les mêmes techniques, apportent des preuves de son absence^{11,7,20}.

Il faudrait distinguer à quelle phase de leurs évolutions se trouvent les lésions examinées, mais nos moyens pour atteindre ce but sont encore assez limités.

L'examen des bâtonnets coupés transversalement permet de constater a) la prédominance des phénomènes résultant de déminéralisation dans les lésions qui évoluent progressivement vers la destruction; b) la prédominance des signes de reminéralisation dans les lésions qui évoluent régressivement et dans les caries

arrêtées. Dans la plupart des lésions, les deux phénomènes alternent en différents endroits.

DÉCALCIFICATION IN VITRO

Des conclusions de valeur découlent de la comparaison de la carie avec une décalcification in vitro. Lemieux²¹ a produit des lésions par une déminéralisation progressive, rapide, ininterrompue, sans le caractère périodique de la carie, sans reminéralisation par la salive. Microscopiquement, les phénomènes de déminéralisation prédominent ici d'une façon frappante. Dans certaines de ses lésions, on trouve des reminéralisations microscopiques qui ne peuvent évidemment résulter que d'un déplacement des minéraux par la décalcification.

Il s'agit surtout de deux phénomènes:

Dans une zone déminéralisée, on observe çà et là un bâtonnet reminéralisé et élargi. A ce phénomène-ci, nous n'apportons que l'explication suivante: si nous submergeons une dent entière avec une carie de l'émail dans une solution de 10% de nitrate d'argent pour 3 à 6 heures et si nous examinons ensuite la carie sur une surface usée et polie (figures 1, 2), nous constatons que la plus grande partie de la lésion n'est pas colorée. Quelques bâtonnets disséminés dans les parties superficielles et dans les parties profondes de la lésion sont colorés intensivement, mais sans être élargis. Il semble donc qu'il existe dans l'émail des bâtonnets isolés des qualités particulières: dans la carie, ils se colorent plus rapidement que les autres; ils s'élargissent et se reminéralisent d'une façon sélective¹². Leur élargissement suggère une altération de leur matrice organique. Il semble qu'ils facilitent le déplacement des minéraux dans la carie et in vitro. Peut-être facilitent-ils la pénétration de l'acide en profondeur d'après l'hypothèse de Darling⁷.

Dans certaines lésions artificielles, la zone superficielle de l'émail est assez bien minéralisée. On connaît cette zone dans la carie et on donne trois explications de



FIGURE 2 Détails de la figure 1, (a) près dant 6 heures en AgNO_3 10%, ensuite coupée longitudinalement et examinée en lumière réfléchie. Dans la carie de l'émail (blanc), sont disséminés des bâtonnets noirs. (objectif Ultropak, grossissement 6.5x)

son existence: la zone superficielle de l'émail résisterait mieux à la décalcification (étant normalement mieux calcifiée); l'émail se décalcifierait d'abord à l'intérieur; la zone superficielle de la lésion serait reminéralisée par les minéraux de la salive. Or il n'y a pas de reminéralisation par la salive dans ces lésions artificielles. La formation de cette zone dépend de la technique de décalcification plutôt que d'une qualité particulière de l'émail. En lumière polarisée, nous constatons la présence des minéraux. En lumière réfléchie sur les coupes transverses des bâtonnets, nous observons parfois des signes peu visibles et peu évidents d'une reminéralisation (diffuse). Ces faits semblent confirmer l'hypothèse de Darling⁷: la zone superficielle de l'émail ne se déminéralise pas au début, mais elle permet la pénétration de l'agent cariogène en profondeur par des petits points

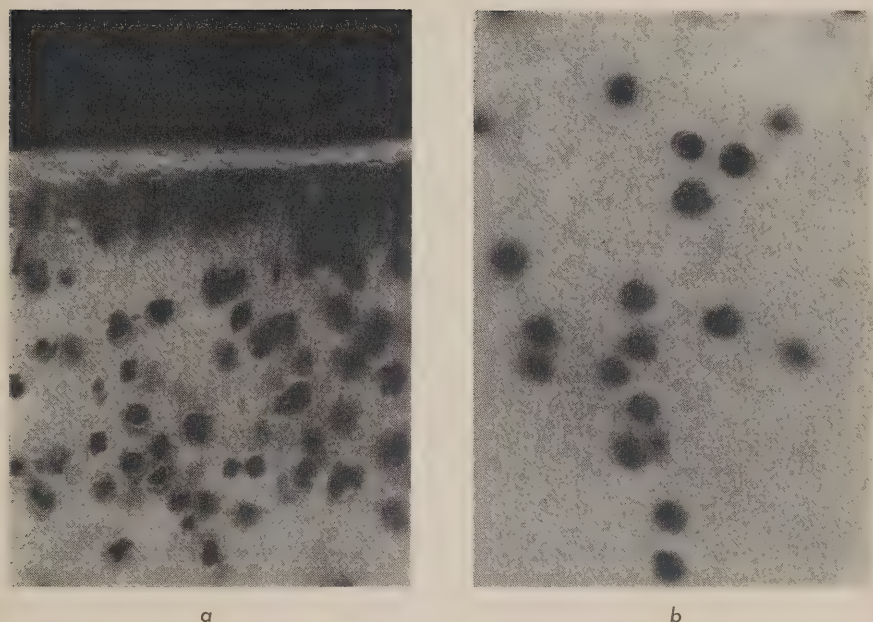


FIGURE 2 Détails de la figure 1, (a) près de la surface, (b) en profondeur de la lésion. Le nitrate d'argent pénètre en profondeur en suivant certains bâtonnets seulement. On distingue les bâtonnets colorés et leurs gaines. (obj. UO 50x)

d'entrée, difficiles à déterminer (stries de Retzius, des bâtonnets particuliers). Elle peut être un peu enrichie par les minéraux déplacés ici après la décalcification de la partie plus profonde de la lésion.

En conclusion: des phénomènes microscopiques de reminéralisation locale peuvent se produire par un déplacement des minéraux d'un autre endroit de la lésion. Ils sont peu répandus et peu avancés dans les lésions artificielles, tandis que la reminéralisation beaucoup plus apparente dans les caries régressives indique le rôle important de la salive dans celles-ci.

PERMÉABILITÉ

Dans la carie, la présence de la zone superficielle minéralisée n'est pas régulière et son caractère varie.

Si nous submergeons des dents entières

dans un colorant (par ex. le bleu de toluidine 1%) pour 3 heures et si nous coupons ensuite la dent et examinons les lésions de l'émail, nous constatons que toutes les lésions artificielles de Lemieux et certaines caries naturelles se colorent complètement. C'est donc dire qu'elles sont complètement perméables au colorant. Même la zone superficielle minéralisée des lésions artificielles est perméable.

Certaines caries ne se colorent pas du tout (figure 3). Leur zone superficielle est minéralisée et présente des signes microscopiques de reminéralisation évidents. Si nous enlevons cette zone superficielle, nous constatons que les parties décalcifiées à l'intérieur de la lésion sont blanches. Si nous remettons ensuite la dent dans le

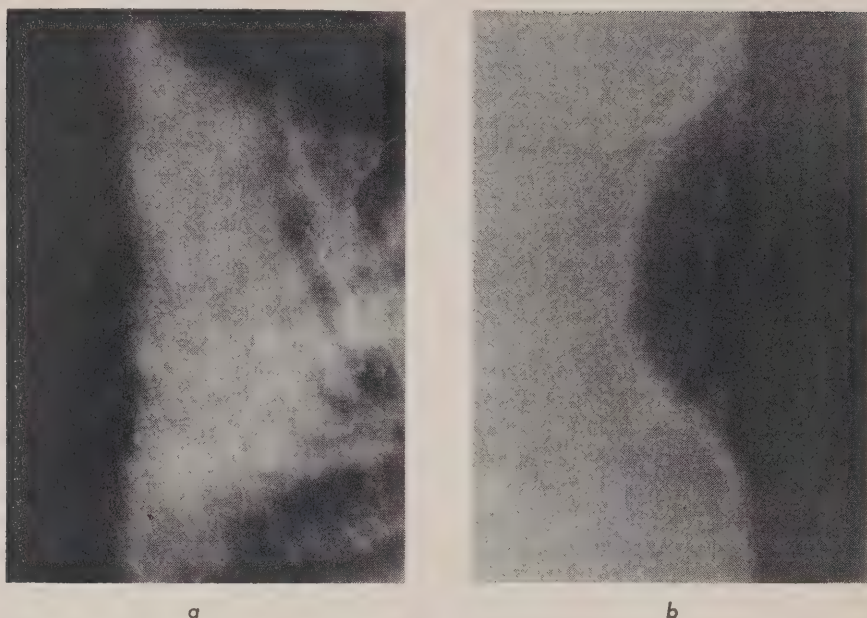


FIGURE 3 Les deux dents ont été submergées pendant 3 heures en bleu de toluidine 1%, ensuite coupées longitudinalement et examinées en lumière réfléchie. (a) La carie avec une zone superficielle minéralisée (foncée) ne se colore pas. (b) La carie sans zone superficielle minéralisée se colore entièrement. (obj. UO 6.5x)

même colorant, les parties décalcifiées se colorent en quelques minutes.

AUTORADIOGRAPHIE

Nous avons submergé des dents avec des caries de l'émail dans une solution de 0.02% de phosphate de calcium CaHPO_4 , contenant le phosphore radioactif P^{32} . (La concentration est comparable à celle trouvée dans la salive.) Ensuite, des coupes minces étaient préparées et placées sur une émulsion photographique où elles ont produit des autoradiographies. Ensuite, les mêmes coupes placées dans de l'eau ont été examinées au microscope polarisant.

Certaines caries ont été pénétrées suffisamment pendant une durée de 4 heures par le phosphate pour donner des autoradiographies assez foncées (figure 4).

Certaines caries même après 4 jours dans la solution n'ont pas permis une pénétration du phosphate qui puisse être montrée sur une autoradiographie même après un développement prolongé (figure 6).

En lumière polarisée, les caries perméables au phosphate apparaissent comme des lésions simples (figure 5), soit sans la zone superficielle minéralisée, soit avec une zone mince ou peu minéralisée.

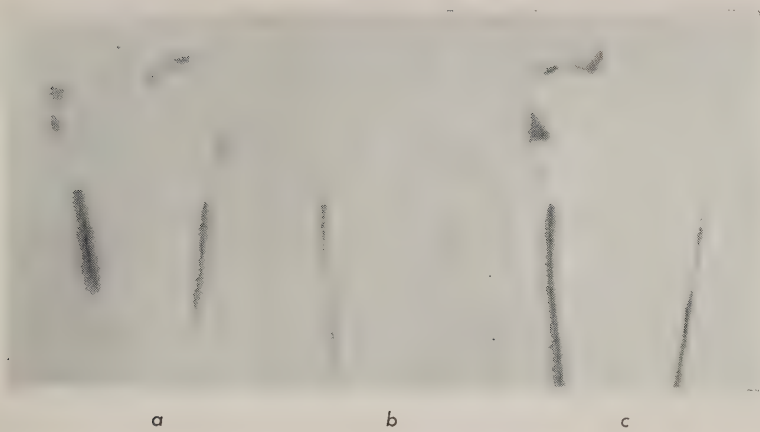


FIGURE 4 Autoradiographies des dents qui ont été submergées dans une solution du phosphate radioactif, (a, b) pendant 4 jours, (c) 4 heures. Les caries produisent des triangles foncés, indice que le phosphate s'est déposé dans la lésion entière. Les contours de la dent résultent de la pénétration du phosphate dans le ciment et dans des matières organiques sur la surface de la dent.

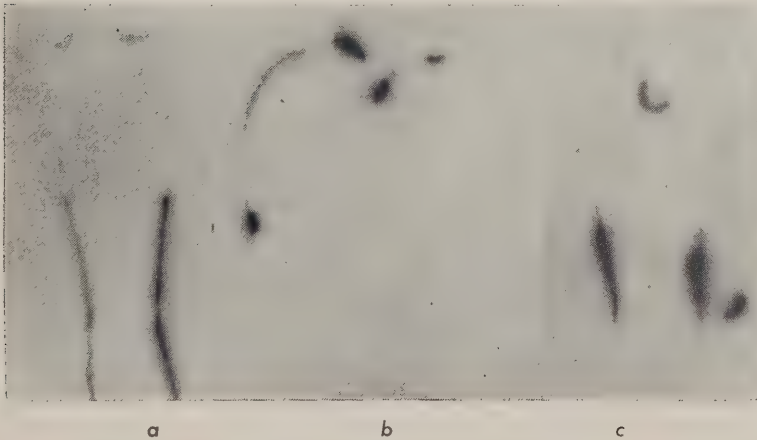


FIGURE 6 Autoradiographie des dents qui ont été submergées dans une solution du phosphate radioactif. (a) 4 heures, (b) 6 heures, (c) 4 jours. Des taches foncées montrent une déposition du phosphate dans les caries occlusales (b, c), dans une carie cervicale (b), dans un débris du tartre sur le collet (c). Le phosphate n'a pas pénétré dans les lésions proximales montrées sur les figures 7, 8, 9.

Toutes les caries avec une perte de substance, même microscopique, étaient perméables. Certaines caries étaient partiellement perméables et présentent une zone superficielle avec des endroits peu minéralisés.

Les caries imperméables au phosphate présentent une zone superficielle bien minéralisée et complète, parfois assez épaisse (figures 7,8,9).

Nous avons examiné ainsi 145 caries, surtout proximales au stade de tache blanche, pigmentée et foncée; de ce nombre 42 lésions étaient imperméables au phosphate.

CONCLUSIONS

Considérant qu'on a déjà prouvé dans la bouche des patients que le phosphate radioactif pénètre de la salive particulièrement dans l'émail carié¹⁸, les observations in vitro mentionnées ci-dessus justifient certaines conclusions.

Les minéraux de la salive pénètrent dans la lésion. Ils y pénètrent peut-être la plupart du temps quand il n'y a pas de périodes de décalcification. L'intensité de cette migration est très faible; elle se manifeste plutôt indirectement: après une décalcification, une certaine quantité des minéraux entrent et reminéralisent la lésion à la période de décalcification. Cette reminéralisation doit être compensée avant qu'un progrès de la lésion soit visible. Ce phénomène ralentit l'évolution de la carie. C'est une des raisons pour laquelle la carie est très lente, tandis qu'une décalcification in vitro se produit en quelques jours ou quelques heures.

Comme les lésions artificielles, même avec une zone superficielle minéralisée, sont complètement perméables, et comme les caries, avec une zone superficielle épaisse et minéralisée présentant des signes de reminéralisation, sont imperméables aux colorants et au phosphate, les zones superficielles sont d'origine et de qualité différentes. La zone superficielle épaisse et imperméable de certaines caries indique que la reminéralisation par les minéraux de la salive a

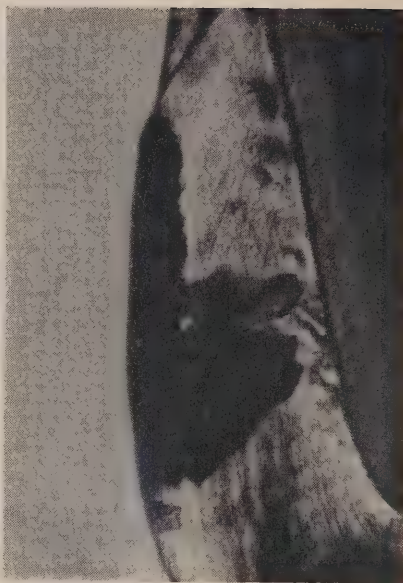


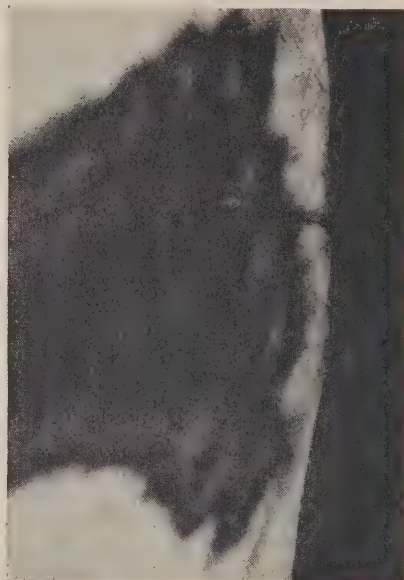
FIGURE 5 Microphotographie de la lésion qui a produit l'autoradiographie de la figure 4 (a). Une lésion déminéralisée sans zone particulière. (obj. 2.5x, lumière polarisée, filtre gypse rouge 1, coupe montée dans l'eau)

participé à sa formation d'une façon significative.

La reminéralisation tendrait donc à se terminer par la formation d'une zone superficielle imperméable aux minéraux (produisant ainsi un genre de lésion encapsulée). Nous ne pouvons pas dire si cette zone était partiellement formée dès la première décalcification ou non. On ne peut affirmer non plus si elle est permanente ou temporaire. Nous ne pouvons pas dire non plus si une zone imperméable aux colorants et au phosphate l'est aussi aux acides. Même si elle ne présente pas de points d'entrée, elle peut certainement être décalcifiée par une attaque nouvelle de la carie et redevenir perméable. Il semble donc qu'une lésion pourrait être reminéralisée complètement seulement par un concours de circonstances particulières quand la zone super-



a



b

FIGURE 7

(a) Microphotographie de la coupe qui a produit l'autoradiographie de la figure 6 (a). Carie de l'émail atteignant la dentine. Une zone superficielle minéralisée. (obj. 2.5x, lumière polarisée, coupe dans l'eau)

(b) La zone superficielle à un grossissement plus fort. (obj. 10)

ficielle devient imperméable aux minéraux, elle doit être légèrement déminéralisée ou perforée pour permettre de nouveau la migration des minéraux en profondeur. Peut-être c'est pourquoi la carie arrêtée est bien exceptionnelle.

Les minéraux entrant dans la lésion doivent passer par la plaque bactérienne. Connaissant le rôle de la plaque bactérienne dans la déminéralisation et dans la formation du tartre, il semble possible qu'elle ne fonctionne pas simplement comme une membrane semi-perméable à la reminéralisation, mais qu'elle faciliterait activement la minéralisation de la lésion²².

Toutes les migrations des minéraux s'effectuent dans la matière organique qui persiste dans la lésion. Au début, la trame organique de l'émail conserve sa structure et chaque bâtonnet représente une unité par laquelle la solution peut pénétrer. Plus tard, la structure disparaît et il n'y a qu'une masse organique homogène¹². (La persistance de la matière organique nous fait douter des théories protéolytiques, d'après lesquelles la protéolyse de la matrice organique de l'émail initierait la carie. En réalité, la protéolyse se manifeste surtout dans la destruction finale de la masse organique persistante après la décalcification.)



FIGURE 8 Microphotographie de la coupe qui a produit l'autoradiographie de la figure 6 (b). Carie de l'émail avec une zone superficielle minéralisée. (obj. 2.5x, lumière polarisée, coupe dans l'eau)



FIGURE 9 Microphotographie de la coupe qui a produit l'autoradiographie de la figure 6 (c). Carie de l'émail avec une zone superficielle minéralisée. (obj. 2.5x, lumière polarisée, filtre gypse rouge 1, coupe dans l'eau)

La diffusion d'une solution des minéraux dans une matière organique colloïdale peut produire des précipitations périodiques (anneaux de Liesegang) qui pourraient expliquer l'apparition de zones microscopiques (qui ne sont pas des artefacts) dans certains lésions. La précipitation dépend non seulement des minéraux, mais de la matière organique dans laquelle ils doivent se fixer^{23,24}.

Pour comprendre les conséquences détaillées des migrations des minéraux, il faut donc connaître les altérations de la matière organique dans la carie. C'est un autre problème que nous ne pouvons traiter dans cet article.

RÉSUMÉ

Dans la carie de l'émail, des minéraux sortent de la lésion, se déplacent à l'intérieur de celle-ci et pénètrent dans la lésion de l'extérieur.

Les minéraux se déplacent dans la matière organique qui persiste.

La relation mutuelle de ces migrations détermine le caractère clinique et microscopique de la carie.

La zone superficielle de la lésion détermine la pénétration des minéraux à l'intérieur.

SUMMARY

The author describes the migration of minerals in enamel caries. Minerals are displaced from one part of the lesion to another as well as to intact enamel. Other mineral elements penetrate the lesion from the exterior. Mineral elements are displaced within the organic matrix which persists.

The relationship between these various migrations determines the clinical and microscopic character of the lesion. The superficial zone of the lesions governs the penetration of minerals from the exterior.

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Réminiscences de plus de cinquante années d'exercice de la chirurgie dentaire

par PAUL-E. POITRAS, D.D.S., Montréal, P. Qué.

Au stage

*Plus tard, dans le fauteuil, vous penserez, le soir,
A vos débuts dans l'Art, où le cœur plein d'espoir
Pour l'avenir lointain, vous entrates au stage.*

Max Pouilley, novembre 1931

Le début du XXe siècle était une belle époque. L'avenir était peuplé de beaux rêves; l'univers avait une apparence de bonheur; la vie harmonieuse et souriante n'était pas encore en opposition avec la vie fiévreuse, inquiète, déréglée que les gens ont vécu entre les deux guerres.

Avant la guerre 1914-1918, les pièces d'or monnayées circulaient à demande; l'inflation des prix était inconnue: un

dollar valait un dollar; l'impôt sur le revenu des particuliers n'existait pas; le gouvernement fédéral devait l'imposer en 1917. Cependant, cette ère merveilleuse me semble aussi lointaine que le cri "Dieu le veut" de Pierre l'Ermite, prêchant la première croisade; que l'emploi des arquebuses, des mousquets en vue d'annihiler les bombes atomiques; que la vue d'autobus trainés par des bêtes de somme.

En octobre 1909, frais émolu d'un pensionnat, j'avais une âme de collégien prête à s'adapter à des mœurs différentes. Je commençais à l'Université Laval de Montréal mon travail d'homme: l'étude de la chirurgie dentaire. Je rêvais à une vie sans ennui.

C'est à l'analyse des années écoulées, que je me suis rendu compte des progrès réalisés dans tous les domaines.

Les membres du Collège des chirurgiens dentistes de la province de Québec, gouvernés par des lois et des règlements depuis 1869, parlaient exclusivement l'anglais à cause d'une majorité anglophone; mais les francophones, après 1913, devenant plus nombreux, le français fut, par la suite, la langue des délibérations.

À l'assemblée annuelle des dentistes du Québec, tenue à l'hôpital dentaire Laval, à Montréal, le lundi, 25 octobre 1915, le docteur W.-D. Cowan, de Régina, Sask., secrétaire du "Dominion Dental Council", fondé à Montréal, en 1902, et qui fut changé, en 1952, par une charte fédérale, pour devenir le Bureau national des examinateurs, ce mandataire des directeurs du dit Council disait donc: "Les dentistes du Québec, qui désirent devenir membres de la Société, seront examinés soit en français, soit en anglais, à condition que les langues étrangères parlées dans les autres provinces aient le même statut que le français dans le Québec". Les dentistes, membres du Dominion Dental Council, escomptaient que le canadien-français était supposé ignorer être chez lui partout au Canada!

La même journée, une motion était présentée pour que le secrétaire de l'assemblée des dentistes du Québec soit bilingue. La discussion fut tellement acerbe que le président, C.-F. Morison, pour apaiser les esprits, laissa sur la table, sine die, la proposition.

Lorsque je m'inscrivis à l'Université, un élève qui possédait les principales règles de la grammaire, qui écrivait à peu près sans faute sa langue maternelle, qui savait un tant soit peu de latin, qui avait une vague idée de la philosophie et des notions superficielles de mathématiques, qui avait

étudié les rudiments d'une langue secondaire et qui se recommandait d'un collège reconnu, cet élève, dis-je, pouvait se présenter devant les gouverneurs du C.C.D.P.Q.; après un examen succinct, démontrant au moins une instruction primaire, l'étudiant était gratifié d'un brevet. Il pouvait ensuite accroître ses connaissances médico-dentaires, durant quatre années académiques, conformément aux cours donnés avant d'affronter les professeurs de l'Université et les assesseurs du Collège pour mériter un doctorat (D.C.D.) et une licence (L.C.D.).

Les membres du Montreal Dental Club et de la Société d'Odontologie de Montréal (ancêtre de la Société dentaire de Montréal) se réunissaient, en septembre 1920, et invitaient le docteur Kent, de Boston, Mass., possesseur d'un film cinématographique traitant d'hygiène dentaire. Heureusement ou malheureusement pour nous, il se croyait le seul à pouvoir expliquer avantageusement sa pellicule. Dans un but fraternel, les sociétés dentaires s'unirent et organisèrent en son honneur un banquet au Cercle Universitaire, le 24 septembre 1920; ils invitèrent les dentistes et les odontotechniciens à assister à la projection, la première du genre.

Les dentistes, gouverneurs des districts de Québec, des Trois-Rivières, de Sherbrooke, de Saint-John, tous morts — un excepté — pour ne pas participer à la responsabilité du Bureau provincial, démissionnaient. Ils se désunissaient des gouverneurs qui refusaient d'aider au relèvement du niveau intellectuel des jeunes. La profession désirait un baccalauréat.

L'Université de Montréal, dès 1926, suggérait de synthétiser les cours de philosophie, au bénéfice de certains élèves, en une année de P.C.N., à condition que le Bureau provincial des dentistes s'engage, provisoirement, à donner un brevet, sans examen, aux élèves ayant terminé la classe de rhétorique et à le donner, en 1927, à ceux qui auraient achevé un cours classique; enfin, en 1933, le P.C.N. disparaîtrait et le baccalauréat serait exigé.

Donc, en 1933, les conditions d'admission à la licence sont amendées: le Bureau des examinateurs des dentistes du Québec veut que le candidat soit sujet canadien, qu'il soit bachelier ou bien, qu'ayant complété un cours secondaire, il ait vingt-et-un ans révolus et possède un brevet; une de ces qualifications rend le candidat apte à s'inscrire dans une faculté pour y suivre les cours dentaires ou les cours d'une autre profession libérale.

La démission des sept gouverneurs du Bureau provincial de chirurgie dentaire fut signifiée, le 13 janvier 1934, malgré les amendements d'un Bureau dont la politique antérieure aurait pu conduire à la perte de son autorité.

Les écoles dentaires avaient, en 1909, un chef de clinique, dont le travail était de surveiller les ouvrages techniques; des professeurs titulaires clairsemés; quelques démonstrateurs. A la tête du conseil professoral: un doyen dont un des désirs était de recruter, en Europe ou dans les autres continents, le plus grand nombre possible de dentistes, anxieux d'être possesseurs d'un parchemin canadien: à savoir, le titre de D.D.S.

L'anatomie, la physiologie, la chimie, la physique étaient considérées des matières secondaires. Un professeur, au service d'un hôpital général, devant des élèves sans expérience, enseignait l'extraction. Le nettoyage de la bouche (première règle de l'hygiène dentaire) était de rigueur; lors des leçons cliniques, le patient payait le prix de l'or utilisé — couronnes et ponts —; cependant, à l'examen final, il arrivait souvent que le candidat payait de ses derniers la note de son patient. Souvent le candidat utilisait pour la première fois, au cours de son examen, des métaux précieux. L'histoire dentaire, la biologie, la microbiologie, la pharmacologie étaient des sciences ignorées; aussi environ sept mois suffisaient à se familiariser avec les auteurs recommandés. Maintenant l'enseignement est plus complet: les six écoles dentaires canadiennes sont des facultés affiliées à des universités; le doctorat et

la licence sont accordés à des disciples plus renseignés que nous, autodidactes par nécessité. Les professeurs de carrière, les professeurs demi-temps, les démonstrateurs, engagés à petit salaire, sont rémunérés au prorata des services rendus; l'année académique, commencée vers le 15 septembre, se termine vers le 15 juin afin d'avoir le temps de montrer les subtilités des sciences.

A mon entrée à l'université, les deux premières années étaient employées à connaître le corps humain normal et ses fonctions organiques; à s'habituer à manipuler les obturations d'étaïn, d'or, de porcelaine, les amalgames, les ciments; à acquérir les éléments de la chimie et de physique. L'anatomie dentaire s'apprenait au moyen de dents extraites; les cavités simples ou composées, se reproduisaient en regardant des modèles de plâtre que la morphologie nous enseignait à sculpter. Le tout était récompensé par le baccalauréat en chirurgie dentaire. Les deux dernières années étaient occupées à assimiler les sciences nécessaires pour réussir les examens d'un doctorat (D.D.S.) et d'une licence (L.D.S.).

Emma Gaudreau (Mme H.-Edmond Casgrain), épouse, sœur, tante de dentistes, fut licenciée du C.C.D.P.Q. le 8 avril 1898 et mourut à Québec où elle avait exercé sa profession, le 7 octobre 1934, âgée de 73 ans.

Un professeur titulaire de la faculté de chirurgie dentaire de l'Université de Montréal écrivait dans un journal dentaire: "... une Rose Hébert, en 1914, à Montréal, devait se présenter à la Législature pour se faire inscrire comme étudiante à l'Université de Montréal..." L'Université de Montréal eut son statut, en 1920, mais Mlle Rose Hébert se promena au Parlement de Québec pour que les députés lui permettent d'antidater son brevet et ne pas attendre une licence qui lui fut accordée, à elle et à sa compagne, Jeanne Guimond, le 8 novembre 1919, alors que l'une et l'autre avaient depuis plusieurs mois un parchemin:

doctorat en chirurgie dentaire de l'Université Laval. Il m'est désagréable de constater, quand il y a pénurie de dentistes, qu'en 1946, les statistiques canadiennes dénombraient trente-cinq femmes, chirurgiens-dentistes alors qu'elles auraient dû se compter par centaines. Le nombre, en 1961, n'a pas augmenté. Les universités ont toujours accepté sans discrimination les femmes qui se consacrent surtout au traitement des enfants.

L'allemand W.-Conrad Roentgen (1843-1923) découvrait par accident, le 8 novembre 1895, à l'Université de Wurgburg, les rayons-X. De peur de "réveiller le chat qui dort" et de conserver une douce tranquillité d'âme, les rayons Roentgen n'étaient analysés que par des savants dans les laboratoires. Roentgen, le 23 janvier 1926, pour intriguer les chercheurs, révélait le résultat d'un rayon inconnu: la radiographie d'une main dont l'annulaire portait un jonc. La lumière, traversant un tube de Crookes où le vide avait été fait, impressionnait cette main sur une plaque photographique, rendait les cellules musculaires transparentes, les os et le jonc demeuraient des corps opaques.

William Hunter, de Londres, Angleterre, dans une conférence, donnée à l'Université McGill, à Montréal, en 1911, et publiée dans la revue médicale "The Lancet", luttait contre cette quiétude. Il expliquait que, grâce aux Rayons Roentgen, il avait remarqué des foyers d'infec-

tion (focal infection), logés à l'apex des dents; ces lésions pourraient être une cause inconnue de maladies. De nos jours, les dentistes, n'ayant pas une machine à rayons-X, sont rares. Elle aide à déceler maintes lésions pathologiques.

La punition de la faute d'Adam et d'Eve fut terrible. Dieu dit: "Tu souffriras et tu mangeras ton pain à la sueur de ton front". L'être humain atténua les douleurs transmises à la suite de la transgression de la loi divine, en rendant possible, en 1844, l'anesthésie et l'analgésie. On obtenait cette analgésie en congelant les tissus ou en engourdissant la bouche à la cocaïne. C'est Neimann, qui le premier, en 1859, fit l'analyse de la cocaïne. Plus tard, Alfred Einhorn, en 1905, synthétisa la novocaïne. L'anesthésie tronculaire fut vulgarisée dans le monde anglo-saxon par Fischer et Riethmiller, en 1913. La seringue impériale était de plus en plus oubliée par nous dont la technique nous avait été enseignée.

L'héritage intellectuel, légué par nos ancêtres, nous a aidés à préparer l'avenir. Jusqu'au milieu du XIX siècle, l'extraction d'une dent n'était pas regardée comme un acte important; aussi l'arracheur de dents s'intitulait docteur - dentiste; il voulait de cette façon éblouir les badauds; il s'efforçait de supplanter le médecin et de s'approprier le numéraire du malade.

2043 rue St-Denis

LES ACTUALITES DENTAIRES

L'Association dentaire canadienne

LE DOCTEUR MILLER INTRONISÉ PRÉSIDENT

Le docteur William Miller, de Vancouver, a été élu président de l'Association dentaire canadienne. L'intronisation a eu lieu au déjeuner annuel de l'A.D.C. tenu à Saskatoon, le 5 juin dernier. Le docteur Miller succède au docteur J. P. Whyte, de Swift Current, Saskatchewan.

Le docteur Miller, en acceptant la présidence, a déclaré que la profession, au cours des dix prochaines années, vivra des heures intéressantes en adaptant sa philosophie à un nouvel ordre social. "La dentisterie verra peut-être son âge d'or," a-t-il dit.

Le docteur P. G. Anderson, ancien président de l'A.D.C., a agi comme maître de cérémonie. Il a décrit le nouveau président comme étant un homme "intelligent, intrépide, loyal et estimé de tous."

Le docteur Miller a obtenu son diplôme de D.D.S. de l'Université d'Oregon, en 1926. Il exerce depuis ce temps à Vancouver. Il fut président de la Société dentaire de Vancouver et du District, de l'Association dentaire de la Colombie britannique et du Collège des Chirurgiens-Dentistes de la Colombie britannique.

LE PLAN D'ÉPARGNE-RETRAITE DE L'A.D.C. TOUCHE LE MILLION

Les revenus du plan d'épargne-retraite de l'Association dentaire canadienne ont dépassé le million, soit \$1,007,578.00. Ce chiffre représente la valeur aux livres des trois fonds (débentures du gouvernement, débentures de corporations et stocks communs). La valeur marchande de ces trois fonds est de \$1,101,421.38. La valeur aux livres des stocks communs représente 53% du total; les débentures de corporation, 30%, les débentures du gouvernement, 17%.

Les dentistes, durant le trimestre se terminant le 31 mai, ont déposé plus de \$276,000 dans le plan d'épargne-retraite. La valeur des unités des trois fonds est à son maximum. La valeur de chaque unité, de \$10.00 qu'elle était quand le plan a débuté en 1958, se chiffre à \$10,823 pour les débentures du gouvernement, à \$11,453 pour les débentures des corporations et à \$14,014 pour les stocks communs. Plus de quatre cents dentistes participent à ce plan d'épargne-retraite.

Des bilans sont publiés, tous les trois mois, dans le *Journal de l'Association dentaire canadienne*. Le dernier bilan du plan a paru en juillet.

Le Canada

NOMINATION DES MEMBRES DE LA COMMISSION ROYALE

Le docteur C. L. Strachan, dentiste de London, a été nommé membre de la commission royale chargée de suggérer des mesures "qui assureront à tous les Canadiens les meilleurs soins de santé." Le docteur Strachan a déjà été membre de l'exécutif de l'Association dentaire canadienne et président de l'Association dentaire d'Ontario.

Les autres membres de la commission sont le docteur David M. Baltzan, chef du personnel médical de l'hôpital St-Paul, de Saskatoon; O. J. Firestone, professeur d'économie à l'Université d'Ottawa; Alice M. Girard, directrice des garde-malades et assistante directrice de l'hôpital St-Luc, de Montréal; le docteur Arthur F. Van Wart, de Fredericton, un ancien président de l'Association médicale canadienne; et Wallace McCutcheon, de Toronto, vice-président et gérant-général de l'Argus Corporation, Ltée, et président de l'Institut de Cancer d'Ontario. Le président de la commission est le juge-en-chef Emmett Hall, de la Cour du Banc de la Reine de Saskatchewan. Le premier ministre, M. Diefenbaker, a déclaré que la commission a comme objectifs "d'entreprendre une étude complète et objective des disponibilités actuelles et des besoins futurs des soins de santé pour la population du Canada et des ressources pour prodiguer ces services et de faire les recommandations . . . que les commissaires jugeront utiles pour assurer à tous les Canadiens les meilleurs soins de santé possibles."

On note parmi les objectifs précis soumis à l'attention de la commission: les disponibilités actuelles pour des services de santé; des méthodes pour améliorer les services actuels; la corrélation entre les nouveaux services et les services actuels; les besoins actuels et futurs pour du personnel; les façons d'obtenir assez de personnel recevant la meilleure formation et ayant les meilleures qualifications possibles; les méthodes de financer les programmes actuels de santé et les nouveaux projets suggérés.

ALBERTA

Le docteur Brown reçoit un diplôme de LL.D., *honoris causa*.—L'Université d'Alberta, en honorant un de ses diplômés, a conféré un doctorat en droit, *honoris causa*, au docteur Harry K. Brown, qui est directeur de la division dentaire du Ministère de la Santé nationale et du Bien-Etre social. Le

docteur Brown a obtenu son doctorat en chirurgie dentaire de l'Université d'Alberta, en 1930. Près de 1,000 personnes ont assisté à la collation médico-dentaire, à Edmonton, le 2 juin. Vingt-quatre nouveaux dentistes et quarante-huit nouveaux médecins ont reçu leurs diplômes et ont prêté leur serment professionnel. Le nouvel édifice des sciences médicales, qui abrite la faculté dentaire qui a été agrandie, a été officiellement inaugurée avant la collation des grades.

Le docteur Brown, dans son allocution, a déclaré que la demande du public "a donné naissance à des services de santé patronisés par des groupes de professionnels et par des coopératives et que le gouvernement s'intéresse de plus en plus à ce genre de services. "Une chose est certaine: cette façon de se grouper pour solder les frais encourus pour la maladie et pour les soins hospitaliers est tellement bien établie dans notre société et augmente à un rythme tel qu'on peut prévoir un essor encore plus grand dans ce domaine; cet essor est probablement inévitable."

Le docteur Brown a de plus déclaré que les professions sanitaires doivent se faire les précurseurs de ces nouvelles formes sociales de santé.

ONTARIO

Le traitements dentaires pré-payés arrivent à leur heure.—(Extrait d'un éditorial de l'*Examiner*, de Peterborough, Ontario.) L'intérêt que porte la profession dentaire canadienne à un plan de services dentaires pré-payés est encourageant. L'état déplorable des dents des enfants du Canada est causé par le manque de soins et par l'absence de fluor dans l'eau qu'ils consomment. Le docteur William McIntosh, de Toronto, va jusqu'à dire qu'un plan d'assurance est inévitable en face des tendances actuelles de plusieurs grands pays occidentaux. Il a déclaré à l'Association dentaire d'Ontario qu'un plan d'assurance serait conforme à l'évolution qui se produit dans le domaine social et le domaine économique. Les dentistes, en fait, font face au même problème que les médecins. La profession médicale envisage depuis quelque temps à une demande de la population pour un système d'assurance médicale patronisé par l'Etat. Le parti libéral s'est compromis dans l'étude des possibilités d'un tel plan et le nouveau Parti en a fait un article de son programme.

Nous avons demandé aux professions, dans le passé, de songer aux avantages et aux désavantages d'un système d'assurance et, dans le cas d'un désaveu d'un plan patronisé

par l'Etat, d'en suggérer un autre qui soit équitable pour tous. La même chose s'applique à la dentisterie. Les traitements dentaires ne sont plus maintenant une affaire de luxe, mais ils s'intègrent dans les soins généraux de la santé. Cependant, ils coûtent cher et plusieurs classes de la population ne peuvent se les payer. Nous avons déjà vu les résultats de ces privations dans d'autres pays. L'Association dentaire canadienne, en étudiant cette question, fait preuve de sens commun.

SASKATCHEWAN

Le congrès de Saskatoon a groupé un nombre inusité de dentistes.—Près de 400 dentistes, la plupart accompagnés de leur épouse, ont assisté au congrès conjoint de l'Association dentaire canadienne et de la Société dentaire de l'ouest du Canada, au début de juin, à l'Hôtel Bessborough de Saskatoon.

Des cliniques scientifiques et des réceptions sociales ont tenu constamment occupés les dentistes venant de toutes les parties du Canada et des Etats-Unis.

L'Association dentaire américaine et l'Association dentaire britannique avaient envoyé des délégués. Le docteur C. L. Endicott, un diplômé de l'Université de Toronto, qui exerce l'orthodontie à Londres, Angleterre, représentait l'Association britannique. Le docteur Fritz Pierson, de Lincoln, Nebraska, transmet les vœux de l'Association dentaire américaine.

Le nombre des congressistes, qui fut plus considérable que prévu, a récompensé les membres de la Société dentaire de Saskatoon qui, sous la direction du docteur F. A. Fernet, avaient organisé le congrès.

Le Corps dentaire royal canadien

NOUVELLES DU QUARTIER-GENERAL

Le brigadier Baird inspecte des unités en Europe — Le brigadier K. M. Baird, Directeur général des Services dentaires pour les Forces armées du Canada, a visité le personnel et les installations de la 35^e Unité dentaire de campagne, dont le quartier général se trouve à Metz (France), et de la 4^e Compagnie dentaire de campagne, dont le quartier général se trouve à Soest en Allemagne. Pendant son séjour en Europe, le brigadier Baird a aussi eu des entretiens avec les Directeurs des Services dentaires des Forces armées du Royaume-Uni et il a présenté, le 9 juillet dernier, un travail devant la Fédération dentaire internationale réunie à Helsinki (Finlande).

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Mediations

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The Dentistry Act of the Province of Ontario sets the dental profession apart as a group privileged to regulate its own activities and effect its own discipline.

Mediations committees are concrete evidence of our desire to fulfill the obligations, at least in part, that are imposed by these privileged circumstances. Mediations is defined by various dictionaries in the following ways—"To act in order to bring about agreement; to provide intercession, negotiation, arbitration and reconciliation." This aspect of professional

life—and of life in general—receives as little or as much attention as the conscience, man's most faithful friend, dictates. In the words of Socrates "We cannot live better than in seeking to become better, nor more agreeably than in having a clear conscience." Yet "The voice of conscience is so delicate that it is easy to stifle" according to the great writer Madame de Stael and "it is also so clear that it is impossible to mistake it".

The privilege expressed in the Dentistry Act is a manifestation of public trust and confidence inspired by the integrity of the individuals within the profession. Trust, is a word difficult to define

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exactly, as are such abstract words as faith, confidence, and integrity—all open to wide and strange interpretation. When we are accepted for registration as Licentiates of Dental Surgery qualifying us to practise dentistry in Ontario as members of the dental profession, we are immediately joining ranks with those whose years of respected service to the public have qualified the profession to retain its special prerogative.

To the question that is sometimes asked, I am sure in haste, "What right have we to conduct such a service as mediations?", the answer is obviously that we have every right to do this, but more important still we have a definite and irrevocable responsibility in this area. This in essence was the reasoning of the Council of the Academy of Dentistry in December 1958 when the Mediations Committee was first established. Recognizing the desirability of mediations in principle only does not substantiate that there is actually any real need for such a service.

If there were no such need then it must mean that the attainment of a document legally permitting the practice of our profession is accompanied by a mystical process of purification rendering the possessor incapable of misdeed or human error. Would that this were so but it is not. The Latin expression "inter faeces et urinam nascimur" suggests quite strongly that we are all brushed with the same tar and embrace similar earthly frailties. That little bit of larceny present in all of us and the elusiveness of the Golden Rule in moments of stress and avarice are adequate reasons for the continued necessity of a mediations service.

Too, there are unkind members of the public who steadfastly refuse to believe that we conduct our professional business in a totally exemplary fashion, preferring to think that we sometimes hide our sins of omission and commission behind impregnable walls of professional piety and secrecy. Becoming righteously indignant to such attitudes, even though they are unjust, usually inflames the reaction. Such people state that professional

persons are usually well behaved and because of their exposure to higher learning are beneficial citizens from whom good leadership can be expected. But when money is involved we are thought of differently and are constantly being asked for more details and itemized explanations. This is true in medicine as well.

Health services are necessary for everyone, and to some, make a chronic and crippling demand upon their financial resources. The economics of health services are constantly being viewed more and more closely. The old phrase, "For professional services rendered" is in bad shape because it is antagonistic to present day social trends, lacks detail, and is felt by some to be the hiding place of a multitude of unexplainable items. Fees remain an acute source of public irritation.

About fees an editorial in the June 1960 issue of the *American Medical Association News*, the newspaper of American medicine, had this to say, and the analogy to dentistry will be obvious:

"A number of complaints stem from simple misunderstandings between physicians and patients, most of which would have been avoided by advance fee discussions. In a few instances the criticisms are justified.

"But whether complaints are valid or not, they create bad feelings and poor public relations for the entire medical profession.

"Like the bad apple in every barrel, there is the occasional doctor who abuses the privilege of the profession by charging exorbitant fees. There is no excuse for overcharging. One medical leader warns that when you take the heart out of medicine and substitute a dollar sign, you are doing medicine a grave disservice.

"Though every doctor should charge enough to command respect, his fees should be reasonable and consistent with the average patient's ability to pay.

"But the small minority of physicians who charge what the traffic will bear are not only giving the profession a bad name, but are playing into the hands of those who favour government-controlled socialized medicine."

The editor continues with a quotation from the *New England Journal of Medicine* which stated:

"Refusal by physicians to face realistically the problem of fees for services may well be a contributing factor to increasing demand for a federally supervised and administered program of medical care, financed by taxation.

"It is not that failure by physicians to adjust the amounts and methods of their remuneration to modern concepts of the business and professional practices would by itself precipitate the enactment of socialized medicine, but that the fee problem is perhaps the major source of misunderstandings, confusion and bitterness in the physician-patient relationship.

"Failure to resolve the problem would make a program of socialized medicine seem that much more desirable to the general public."

Average dental incomes are good but not impressively so. But for the average wage earner whose annual income is less than \$4,000, there is a much greater requirement for careful spending than for those whose incomes are three to four times this amount. Annual dental earnings are apparently not a source of public contention. However, the chronic inability of patients to reconcile specific fees to specific services remains a constant source of aggravation and misunderstandings. In short, we are expected to make a good living; we are expected to give honest and fair treatment in return; and we are expected not to forsake the patient's ability to pay in the establishment of our fees.

We have only to turn our eyes westward to see the close attention paid to fees for prosthetic services and the ensuing problems. These problems are not peculiar to western dentists—they belong to every dentist. Any steps which can be taken that support and substantiate honest fees in a frank and open manner can do much to prevent the spread of this dental tragedy.

Dental treatment cannot ever be fully standardized to conform to rigid fee schedules for specific services because of the many variables involved in patient

behaviour, tissue reactions, and so on. Total itemizing remains, then, not only impractical but to many, abhorrent. However, improved materials and the great advance in cutting instruments have closed the gap in time consumed between the perfectionists and the average dentist and make more possible at least the establishment of fee schedules that would be acceptable to most. If we could develop a fee basis, free of commercialism and the repugnant features of selling metals and other dental materials, that had as its foundation a fair hourly income that could be varied to suit specific circumstances, much oil would be poured on our troubled waters.

Professional obligation and public attitudes indicate a strong need for mediations.

Where, within the profession, should mediations be conducted? Since, in health matters, each province retains its autonomy and since in each province there is a dental organization directly responsible for the actions of the profession, it would seem logical in Ontario for example that the Royal College of Dental Surgeons should conduct any necessary mediations program. The logic of this premise soon vanishes when the facilities of the Royal College of Dental Surgeons and its structure are considered. As is true with the Board of Education and other administrative groups, the Royal College of Dental Surgeons is constituted in such a way that the handling of day to day details that are purely local in nature is impracticable. Furthermore, there is a more positive reflection of professional sincerity when the local organized body in dentistry demonstrates its willingness to tend its own affairs. "Inward sincerity will of course influence the outward deportment, where the one is wanting there is great reason to suspect the other." These are the words of John Tillotson, Archbishop of Canterbury in the 17th Century.

Before the actual establishment of a Mediations Committee, people anxious to register displeasure or dissatisfaction

against a dentist directed their comments to the offices of the Faculty of Dentistry of the University of Toronto, the Royal College of Dental Surgeons, the Canadian Dental Association, the Ontario Dental Association, the Toronto Academy of Dentistry, the Better Business Bureau, the Chamber of Commerce, the city health department, and in fact anywhere where they felt they would be granted an audience. The final repository for these episodes customarily was the Royal College of Dental Surgeons. The frequency of these grievances, real or otherwise, became a sizeable problem and precipitated a discussion between the Royal College of Dental Surgeons and the Council of the Academy of Dentistry. The Academy, though not enthusiastic to engage in these procedures, once duly informed, accepted its responsibility and a Committee was summarily appointed.

This new Committee consisted then as it does now of eighteen members—eleven general practitioners, two specialists from each of oral surgery, orthodontics and periodontics, and a general chairman. Great care was exercised in the selection of these men, to assure that they were members in good standing, generally respected by their associates and that they were fairly representative of the various age groups practising in the area.

These men would, of course, function out of office hours and without remuneration. Such a proposal is acceptable to most professional people as long as the demands are not too onerous. Should the duties of this Committee result in even one formal evening meeting a month, it might be too much. The main Committee was, therefore, divided into three sub-committees each with its own chairman, that would function on a rotational basis. There was unanimous agreement among the members that the purpose of this Committee would be to assist members of the public who, either correctly or incorrectly, felt that they had been poorly or unjustly served by a member of our profession.

In the processing of complaints every effort was to be directed toward the re-establishment of a pleasant dentist-patient relationship and an undamaged reaction toward the profession. No infant was ever less sure of his first steps than was this Committee, and even today some of our endeavours are as awkward as the situations themselves. On an average there are three telephone complaints and numerous enquiries a week that, thanks to the competent and diplomatic services of our executive secretary, never reach the pen and ink stage. These calls are often from people merely in need of reassurance from another source that their problems are not unusual or that the fee in question is not untoward. They pick up the telephone feeling cheated or abused. Ideally, they replace it comforted by the knowledge that they are not overcharged or that their difficulties are usual and will subsequently be resolved by natural processes. To the others who can not be thus reassured or otherwise placated, and whose disturbances are too complex in nature, the suggestion is made that they submit their problem in writing. Only written complaints are considered by this Committee. How many patients start to write, feel foolish and stop, we will never know, but a few do complete the cycle and these are the ones that come before this Committee.

By careful deciphering and interpretation the original document from the patient is transformed into a more legible and hopefully understandable typewritten form. At the outset just the pertinent details contained in the patient's letter were relayed to the involved dentist. In the covering letter he was asked to submit a written explanation to the Committee by a stipulated date. This procedure was later modified and the dentist now receives a complete copy of the patient's letter in order that he may be fully apprized of the patient's reaction. The dentist upon receipt of our letter is legally free to ignore it entirely, to tell our Committee to mind its own affairs, or to comply with our request in a spirit of full

co-operation in the attainment of our purposes. There have been one or two exceptions but in all other instances the dentist involved has been helpful and eagerly supported the Committee in its endeavours.

Upon receipt of the dentist's written explanation, a copy of all the information is sent to a sub-committee chairman and to each member of his committee. These men are requested to study the material and inform the sub-committee chairman of their conclusions. The sub-committee chairman in turn informs the office of the Academy and the general chairman then composes the necessary letters to the patient and/or dentist. Before these letters are mailed they are sent to the sub-committee chairman for approval of the wording and content. The general chairman is forbidden to participate in actual mediations but acts merely as a secretary and co-ordinator.

Expressing in writing the precise recommendations of the committee members is often very difficult, for we know that either the patient or the dentist will be disturbed with the content of these letters. Fortunately, it is usually the patients who are found to be in error. It is much easier to be able to inform a patient of this conclusion than it is to have to tell a confrère that you have detected valid grounds for patient dissatisfaction, or even worse.

Writing to a dentist enunciating what we feel has been the cause of the grievance and attempting to suggest tactfully that a modification of his procedures was probably in order, is a delicate and unpleasant duty. There are times when the written word is easily misunderstood and where a conversation with a dentist is much more pleasant and fruitful.

Patients' reactions to our concluding letters are consistent in their pattern of apparent lack of gratitude for our participation. Yet this is not discouraging, for the dentists themselves display the same energetic silence respecting their gratitude, even though we have obviously helped them substantially. Our solace and

satisfaction is derived from the knowledge of overall good public relations for the profession in the conduct of what we continue to believe is a necessary service.

Should a dentist fail to respond to the first letter from the Mediations Committee, he is sent a second letter informing him that without his help we cannot participate further and will have to delegate the matter to the Royal College of Dental Surgeons for its disposal. The Royal College of Dental Surgeons, by virtue of its authority, can enforce the co-operation of the dentist in resolving the situation. Having to take this step is, of course, disappointing to us, since one of our aims is to avert the necessity for coercive measures.

Patients are notified at the outset that we may be unable to help but that we will try. Also they know that all the avenues recognized by law remain open to them should they wish to carry their problem further following our participation. Preventing legal action is, however, one of our basic objectives, but if legal action seems inevitable or if the patient has sought legal advice beforehand, we do not participate. Indeed we are careful to inform such patients or their legal advisers that we are not in the business of assisting patients to create evidence that may be used against members of our profession.

Can all patients' problems be assessed competently by written information only? The Mediations Committee progressed serenely for two years or more with the inner conviction that all problems that came before it could be dealt with through the medium of the written word. However, a state of impasse was reached with one specific problem and resolution lay beyond our grasp. The complaint was received from a female patient approximately thirty years of age who alleged that her appearance and chewing efficiency were seriously impaired by two new anterior full jacket crowns. The dentist stated that the crowns were made a certain way with the patient's previous knowledge, in order to withstand the

stress of function and that they were satisfactory in appearance. The patient said they were disfiguring. We requested further information from the dentist, including models or radiographs. None of these was forthcoming. What could we do now? We could toss out the complaint as insoluble but that would be helpful to no one and would leave the patient with a feeling of bitterness toward the entire profession and provoke a desire for legal assistance. The other alternative was to arrange to see the patient's treatment. The latter choice was the only one acceptable and possible unless our entire purposes were to be spurious. Theoretically this patient had to be seen.

A specific meeting was called at which time the Committee, with the exception of three who could not be present, agreed unanimously that there were circumstances such as the jacket crown case which as a last resort must be seen in order to achieve a fair and just termination—all other channels having been duly explored. During this meeting every aspect of mediations was reviewed. Emphasis was again placed upon the fact that the Royal College of Dental Surgeons is physically unable to perform such functions owing to the wide geographic area covered by its directors.

If the dental profession were to retain the privilege of governing itself and be directly responsible only to the provincial government, then there must be continued effort on the part of the profession to justify this privilege. The only alternative open to the public if mediations committees do not exist is to commence litigation.

For the sake of brevity the other questions and answers that evolved during this special meeting will be considered in point form.

1. Does this Committee have any rights, legal or otherwise, to make suggestions to members of the dental profession referring to fees or quality of treatment? This Committee cannot legally force a member of the dental profession to do anything.

However, it has every right and a responsibility to bring to the members of the profession all persuasive efforts possible to effect desired alterations in fees or treatment.

2. Should a patient be informed that treatment or fees have been considered unsatisfactory? No. The only information that a patient should receive under such circumstances would be the knowledge that this Committee had been in contact with the patient's dentist making him aware of its findings.

3. Would the results of an examination be available as evidence in a court action? No. Such findings would be classified "without prejudice" and would be retained by the solicitor of the Royal College of Dental Surgeons to be loaned only to this Committee or the Royal College of Dental Surgeons upon request.

4. Should the examining dentist's name be known to the patient? Absolutely not. Further, the patient would be duly cautioned to answer only the questions directed by the examining dentist. Unsolicited information would negate the whole procedure.

5. Would the dentist whose treatment was under consideration have advance knowledge of the proposed examination? Yes. The dentist would receive a letter informing him of the necessity of this procedure and suggesting, if it were his wish, that he meet with the Committee or submit further information that would help and perhaps make this examination step unnecessary.

6. Would an examining dentist be concerned with minutia or would this be a gross examination? Only the most extreme deviations from normal and acceptable standards would merit the concern of this Committee. Every dental practitioner, including the dignified senior members whose years of dedicated service have done so much to foster public confidence in professional standards,

knows that for some patients it is impossible to achieve the ideal. The possibility of imperfections in dental treatment being apparent to the eye of an examining dentist exists in every practice. These slight imperfections would be of no interest to this Committee.

7. Are the members of the Mediations Committee likely to be asked to appear in court? This is quite unlikely, although any dentist is liable to be subpoenaed for court appearance at any time. The functions of this Committee are active evidence of our willingness to discharge our responsibilities. Evidence gathered under such circumstances would therefore be respected as "privileged information."

It may interest the reader to know what transpired in the case of the lady with the jacket crowns. Her dentist was informed that as a last resort it was our intention to examine his patient. We were told rather unceremoniously to do what we liked. Following the examination the patient was informed by letter that her treatment was in every respect satisfactory and that the dentist would be encouraged to collect his fee if outstanding. From the patient's standpoint, although the Committee found her complaint unjustifiable, it was at least obvious that someone had been willing to hear her problem. From the dentist's standpoint it was obvious that we had been of assistance.

GENERAL REMARKS

Every practice is fair game for misunderstandings and this is usually just what they are. Among the complaints received thus far have been two pertaining to members of the Committee and one concerning the general chairman.

Nearly all the complaints received could have been prevented had the dentist presented the patient with a more complete explanation before the commencement of treatment. When the dentist tries to explain too late it sounds as if he is making excuses. Those details that should have been given ahead of time

by the dentist, when presented to the patient by the Committee, seem to satisfy.

Prosthetic treatment and fees in general constitute the major reasons for misunderstandings. A few are related to personality clashes, questionable handling of minors, and inaccurate diagnoses. In spite of spreading public awareness of this service, there is no evidence that undue advantage is being taken of it. The public by and large appears well pleased that such an aid is available to them. Most members of the profession seem agreed that we should conduct this service, but do not want to have any more to do with it than they can help. This applies to the Committee members as well.

Our professional reaction to regulations and mediations is indigenous to human nature and J. D. Morton, professor of Law at Osgoode Hall, presses his finger directly upon the sensitive area of human reaction to laws or regulations when he states "Law is institutionalized as if there could be law without lawyers and citizens." Morton then quotes Roscoe Pound, who has noted that this impersonalization of law is well suited to Puritan societies such as ours. The Puritan, with his fierce individualism, does not want to be judged by his fellows. Confident in his own ability to distinguish good from evil, he is reluctant to be judged by any human agency. "Judge not, that ye be not judged," the revered biblical expression proffered by one member as a reason for not fulfilling our obligations in this area, therefore seems reasonable but it is nonetheless inappropriate.

CONCLUSION

The Committee feels very strongly that:

1. There is a public need and a professional obligation to conduct a mediations program.

2. The provincial law which delegates this responsibility and broad trust to the profession is given support and strength by the very existence of such committees.

3. The necessity of outside intervention

in professional affairs is minimized by such services.

4. The acceptance of mediations by the profession is widespread. Ottawa, Hamilton, Calgary, Edmonton and various centres in the United States also conduct such programs. The Ontario Medical Association within its various divisions conducts similar committees. It is interesting to note that it is not the Ontario College of Physicians and Surgeons, the legal body of medicine in Ontario, that conducts this service.

5. Fees remain an active source of public irritation. Again from the *A.M.A. News* in another editorial the following pertinent observations are made: "that 95 per cent of the complaints received were based on fees charged. In a few instances the complaints were justified. But in most of the cases they were the result of misunderstandings. Most patients do not object to fair understandable charges. But they do object to unexplained unexpected charges."

6. The establishment of some sort of reasonable fee basis favourable to all would prevent many misunderstandings.

7. Thoughtless or unwarranted criticism of a confrere's treatment immediately creates bad feelings toward the profession as a whole, is seldom beneficial to the patient, and often reflects distastefully upon both dentists.

8. If by chance the investigations of a mediations committee should ever reveal that a scoundrel has crept into our camp it would be the duty of this Committee and the profession to ferret him out and expose him.

9. Unresolved complaints, real or imaginary, breed widespread distrust of the profession.

10. Improved public relations through increased public confidence and respect are natural by-products of mediations.

11. The dental profession has been inadequately informed of the functions and purpose of mediations committees. It is the purpose in part of this paper to attempt to rectify this situation. In addition

a pamphlet on mediations will soon be printed and will accompany all letters to members of the profession from this Committee.

12. Some problems defy our best intentions and will never be fully resolved. Yet it will always be better to have tried and lost than never to have tried at all.

RÉSUMÉ

L'auteur décrit le fonctionnement du Comité de médiation de l'Académie de Dentisterie de Toronto et des rapports qu'il entretient avec le comité de discipline du Collège Royal des Chirurgiens-Dentistes d'Ontario.

Le Comité est formé de dix-huit membres—onze omnipraticiens, deux spécialistes de chacune des spécialités de chirurgie buccale, d'orthodontie et de périodontie et d'un président. Les plaintes faites par téléphone sont reçues par le secrétaire de l'Académie. Seules les plaintes faites par écrit sont examinées par le Comité. Une copie de la lettre reçue du patient est envoyée au dentiste concerné qui est prié de répondre par écrit au Comité avant une date fixée. Le dentiste est libre de répondre ou non à cette invitation, mais jusqu'à maintenant seulement un ou deux ont négligé de le faire. Après réception des explications du dentiste, une copie de l'ensemble des renseignements est expédiée au président d'un sous-comité. Celui-ci, après avoir étudié la question, communique avec le président général qui rédige les lettres destinées au patient et au dentiste.

A défaut du dentiste de se plier aux recommandations du Comité de médiation, la question est référée au Comité de discipline du Collège qui peut forcer le dentiste à donner suite aux recommandations du Comité de médiation. Le but du Comité de médiation est de prévenir les poursuites légales, mais, si une poursuite est inévitable ou si le patient a consulté un avocat avant de s'adresser au Comité, celui-ci se refuse immédiatement.

Les Comités de discipline, à cause de la grandeur des territoires qu'ils desser-

vent, ne peuvent pratiquement pas prodiguer des services de médiation entre les patients et les dentistes; c'est pourquoi des Comités de médiation ont été établis

à Calgary, Edmonton, Hamilton, Ottawa, Toronto et dans divers centres des États-Unis.

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An Appraisal of Antibiotic Therapy in Dentistry: 1

R. G. FLETCHER, D.D.S., Montreal, P. Quebec

Antibiotic therapy is an integral part of dental practice and has been adopted on a wide scale.

"With the exception of the introduction of general anaesthetics and local injectable anaesthetics into the practice of dentistry, no other group of therapeutic agents has had a more dramatic impact on the profession than the antibiotics".²⁰ Since a large part of dental practice is essentially dedicated to the cure or repair of the harmful effects of bacteria, it was inevitable that the antibiotics would play an important role in the effort to render superior treatment.³⁶

We must consider whether these substances can be of service to our patients. In order to use these drugs effectively, some consideration must be given to the basic principles of antibiotic therapy. The practitioner must be cognizant of the basic principles of chemotherapy, nature of the drugs, methods of administration, dosage, duration of treatment, potential hazards, etc.; for only then can their possible usefulness in dentistry be assessed. This forms a basis by which clinical applications will be more directly evaluated.¹⁹

Chemotherapy, as defined by Dubos, "is concerned with the use of chemicals

(other than those resulting from host defensive mechanisms) to inhibit the proliferation of pathogenic organisms within the host".¹⁰

Antibiotics can be described collectively as "chemical substances produced by micro-organisms, which have the capacity to inhibit the growth and even to destroy bacteria and other micro-organisms, in dilute solutions".³³

Unfortunately, antibiotic therapy has been grossly abused in the last decade. This is a well recognized fact and what makes it particularly unpleasant, is that the dental profession has also been guilty of this abuse. This situation must be recognized if a realistic appraisal is to be made of the current status of antibiotic therapy in dentistry.⁸ Degnan states that: "the great increase in numbers of resistant strains of organisms and evergrowing number of allergic reactions to antibiotics in the last ten years has led to the realization that there has been an indiscriminate use of these therapeutic agents that certainly borders on professional negligence".⁸

GENERAL PRINCIPLES OF ANTIBIOTIC THERAPY

Most dentists are familiar with the day-to-day use of antibiotics, although dis-

agreement about their indications and, often, controversy about their value exist. On the theoretical side, Kramer points out: "the academic considerations are generally submerged in the exigencies of practice. To pause for a moment and re-appraise the principles of antibiotic therapy may accordingly prove worthwhile".¹⁹

Zubrow et al maintain that there are several simple rules which form the basis of antibiotic therapy: "(1) the disease being treated must be microbial in origin; (2) the pathogen involved must be sensitive to the antibiotic agent being used, in a dose that is well tolerated by the patient; and (3) the antibiotic must be brought into contact with the diseased area, or with the producing organisms, for a long enough period of time to produce a substantial reduction in the number of viable organisms".¹⁹

These rules may seem simple and straight forward but a failure with antibiotic therapy often occurs because one or more of these elementary points has been overlooked.

These failures may generally be attributed to one of the following problems: (1) emergence of resistant strains of bacteria; (2) a lack of sensitivity of the causative micro-organism to the antibiotic used; (3) superinfection; (4) inadequate dosage; (5) tardy initiation of therapy; (6) premature withdrawal of antibiotics; (7) omission of required surgery, particularly incision and drainage; (8) failure to supplement therapy with required co-medication and general supportive care; (9) the use of topical therapy where a systemic antibiotic was indicated; and (10) a non-bacterial cause for the lesion.^{2,36}

SELECTION OF THE ANTIBIOTIC

The antibiotics, unlike many of the antiseptics, tend to be selective in their antibacterial action. Certain types of micro-organisms are unaffected by even high concentrations of particular antibiotics; therefore, in the treatment of bacterial infection it is essential to select the correct drug.¹⁹

The sensitivity of the organism concerned in each case chiefly determines the choice of antibiotic. Ideally, the most reliable basis for forming the choice is the laboratory sensitivity test; however, this is seldom possible and in practice would prove unrealistic, perhaps leading to serious delay in the treatment.¹³

Archer⁴ believes that, accurate clinical diagnosis and judgment will enable the practitioner to select the antibiotic of choice. This can often be made on the basis of a knowledge of the type of organisms likely to be present in such infections and their probable sensitivity to the various antibiotics available.

Desirable Properties of Antibiotics. — A group of generalizations about the desirable properties of antibiotics will further place the subject matter in perspective. According to Kutscher, "an antibiotic should: (1) have a selective and potent anti-microbial action against a broad range of micro-organisms, (2) be bactericidal rather than bacteriostatic, (3) operate fairly independently of the host defences, (4) not induce significant bacterial resistance, (5) demonstrate a satisfactory therapeutic index, (6) cause few or no side effects of importance, (7) not be materially affected by body fluids, exudates, pus, plasma proteins, or tissue enzymes . . . (8) It should be efficacious by several routes, especially orally. Lastly, (9) its manufacture should be possible at a reasonable cost and in adequate amounts."²⁰

The agent with all these virtues has not been discovered. Consequently, we are obliged to adhere to certain reasonable therapeutic principles in order to achieve the best possible results with the antibiotics now in use.³⁶

Antibiotics can do no more, when all is said and done, than contain bacteria. They do nothing in themselves to promote healing or encourage tissue growth, except in so far as these are impeded by the intrusion of micro-organisms.¹³

Goulding reminds us that the cardinal principles of surgery must still be followed—promotion of the natural health and resistance of the host's tissues, prevention of pathogenic invasion, release and drainage of purulent matter and the correction of mechanical defects. "Neglect of these points cannot be overcome simply by reliance on the latest antibiotic, no matter how earnest the faith that accompanies its prescription."¹³

Available Antibiotics.—Due to the rapid changes in the field of dental therapeutics many dentists who graduated even as recently as fifteen years ago have had to master an almost new list of therapeutic agents in order to keep abreast of current therapeutic practice.²²

It is essential to be familiar with the available antibiotics, and to limit one's choice to those that have been proven useful by sound clinical investigation. Purchase of a copy of *Accepted Dental Remedies*, published annually under the immediate supervision of the Council on Dental Therapeutics of the American Dental Association, is recommended as an aid to the dentist in making his choice.

The systemic antibiotics most frequently used in the treatment of acute dental and oral infections are (1) penicillin, (2) erythromycin, and the tetracyclines which include tetracycline, oxytetracycline and chlortetracycline.³⁴

New antibiotics are constantly being sought and intensive activity in the field of research is very likely to continue particularly since bacterial resistance and patient sensitivity appear to develop eventually with any of these antibiotics.²⁴ There is a constant race against resistance, especially in terms of obtaining an antibiotic useful against resistant staphylococci or to be used to treat penicillin-sensitive patients. These efforts have borne fruit with the development of erythromycin, carbomycin, spiramycin¹³, albamycin and many others.²⁰

The Antibiotic of Choice.—The drug of choice to institute the antibiotic regime is

the one which decreases the number of pathogenic bacteria most rapidly, with the minimum toxic effect to the patient. Most pathogens in the oral cavity are gram-positive cocci, i.e., streptococci and staphylococci. Most acute dental and oral infections are caused by these organisms. This information, added to the fact that clinical experience has proven penicillin to be very effective in the treatment of these severe infections,^{1,34} indicates that penicillin is the drug of first choice.

The choice of penicillin is made notwithstanding the increasing number of patients who show sensitivity to this agent. In these patients, or when the infectious micro-organisms have become penicillin-resistant, erythromycin which closely resembles penicillin in its antibacterial activity, should be employed.^{1,24} This may be considered as "backing up the line".²⁰

The Council on Dental Therapeutics of the American Dental Association¹ considers that oxytetracycline would appear to be a suitable choice in the above conditions. However, they also mention that of the three broad spectrum antibiotics, a significantly lower incidence of gastrointestinal symptoms is found with the use of tetracycline.

Neither erythromycin, nor the tetracyclines, have been shown to surpass penicillin in efficacy.^{24,28,29} Penicillin is still the most widely used antibiotic. According to a recent survey, almost 75 per cent of the dentists who prescribe antibiotics for their patients, select penicillin as their first choice to treat or prevent infections.¹¹

If no response is observed within 48 hours after the initial drug of choice, an alternative agent should be employed or if the laboratory sensitivity tests indicate another preference, the change in therapy must be made.¹³

There exists the question of whether or not erythromycin should be the initial drug of choice. As a result of an extensive clinical trial, Ping²⁵ concludes that erythromycin should be considered a first choice antibiotic for dental patients. On the other hand, Kutscher²⁰ considers this

question in the light of the need to keep an agent available for organisms resistant to other antibiotics and especially in view of the increasing incidence of resistance of micro-organisms to erythromycin itself.

Despite the many clear advantages of penicillin as far as its activity against the most commonly pathogenic oral micro-organisms, there are some workers who definitely feel that the antibiotic of choice for many oral infections should be of the broad spectrum group. Dore⁹, prefers tetracycline fortified with glucosamine to increase absorption from the gastrointestinal tract.

METHODS OF ADMINISTRATION

Dentists have a natural predisposition to administer drugs orally rather than parenterally. Fortunately, this problem has been largely alleviated by the advent of reasonably active buffered penicillin G and penicillin V. These preparations have resulted in reliable absorption following oral administration.^{24,38,32}

Formerly, the inconvenience of systemic administration of penicillin undoubtedly persuaded many dentists to turn to the tetracyclines. With the availability of these new oral penicillin preparations there now appears to be little indication for the preferential use of the tetracyclines.²⁴ Penicillin has been reinstated to a considerable extent as a useful agent in dentistry. Oral penicillin administration causes fewer gastrointestinal tract disturbances than do the broad spectrum antibiotics. It also results in less overgrowth of non-inhibited organisms. Another important advantage of oral penicillin is that it is relatively freer from alarming allergic side effects than when given intra-muscularly.²⁰

Occasionally the presence of an overwhelming infection and the poor physical condition of the patient may predetermine the route of administration. The method of choice in these cases would be intramuscular or intravenous.²⁰

Topical use of antibiotics would be acceptable if the agent could be brought

into contact with the diseased area or with the disease-producing organisms for a long enough period of time to produce a substantial reduction in the number of viable organisms. If these criteria can be met, the drug used should be one that is effective, non-allergenic and one which is not likely to be taken systemically,³⁶ such as bacitracin, polymyxin B and neomycin.

It appears that local antibiotic therapy has a very limited role in dentistry except, perhaps, as an adjunctive treatment for some gingival and periodontal lesions.¹⁸

Dosage.—The proper dosage should be the one which will produce a chemotherapeutic level of the antibiotic in the blood plasma and serum as well as at the site of the infective process.⁴ Maximum therapeutic dosage should be given from the outset.

Duration of Therapy.—It is imperative that antibiotics be brought into contact with the disease-producing organisms for a long enough time to produce a substantial reduction in the number of viable organisms. Most authorities agree that antibiotics should never be used for less than a three-day period following the subsidence of the acute phase or following surgical procedures.^{4,8,19}

POTENTIAL DANGERS ACCOMPANYING ANTIBIOTIC USE

We must be aware of the potential dangers accompanying antibiotic use. In the selection of any antibiotic agent the dentist should always carefully consider whether its effectiveness, immediate benefits and need for use outweigh any possible harmful effects.

Knighton¹⁸ lists four general potential hazards which may accompany antibiotic use: (a) the development of antibiotic-resistant strains of micro-organisms, (b) the possibility of sensitizing patients and thus influencing the production of varying degrees of allergic manifestations with future use, (c) the development of secondary infections due to antibiotic-resistant micro-organisms, and (d) the possi-

bility of a direct toxic effect, exclusive of allergic manifestations.

Emergence of Resistant Strains.—Most of the drug-resistant strains are the result of mutations which occur independently of the use of antibiotics. Resistant strains are allowed to survive during the course of antibiotic therapy, while the susceptible organisms are destroyed.

Zubrow et al³⁶ suggest that the problem of the emergence of resistant strains can be minimized by the following measures:

1. Use of a large enough dose to inhibit the growth of the micro-organism.
2. Continuation of the therapy for a long enough period of time to substantially reduce the residue of viable organisms.
3. Use of combined therapy which may in certain instances delay the emergence of resistant strains. The two drugs used, be they synergistic or additive, should not display cross resistance.

The use of a combination of two antibiotics should only be considered when the situation clearly demands it and when the antibiotic sensitivity studies confirm that the infectious agent is resistant to single drugs but susceptible to a specific combination.¹⁶

Sensitization and Allergic Reactions.—The potentiality of inducing penicillin sensitivity or of producing allergic reactions in patients sensitized through previous contact with the drug, has become increasingly evident.

The topical use of penicillin is highly dangerous and thoroughly unjustified. The Council on Dental Therapeutics of the American Dental Association believes that if the infection is serious enough to warrant penicillin then the systemic dosage forms will give satisfactory results and should be used. "Since the ability to employ penicillin for systemic effect is of extreme importance in the prophylaxis and treatment of serious infection, the Council regards the hazard of sensitization

as of sufficient magnitude to justify the recommendation that the use of topical dosage forms of penicillin in dentistry should be discontinued."¹

The oral administration of penicillin has largely overcome the possibility of severe allergic reactions such as anaphylactic shock. A history should always be taken before the administration of the drug in any form to ascertain whether there may be predisposition toward penicillin sensitivity.^{1,19}

Disturbance of the Normal Flora.—Another side effect, accompanying or following antibiotic therapy, may be the overgrowth of antibiotic-resistant micro-organisms, including fungi. A clinical infection may result, such as moniliasis, particularly following topically applied antibiotics.⁵

The tetracyclines permit the replacement of suppressed bacteria by growths of yeast-like organisms in the mouth and lower intestinal tract resulting in the development of thrush or other forms of moniliasis.¹⁷

Such overgrowth phenomena have led to the introduction of a number of valuable antifungal antibiotics for treating these superinfections.²⁰

Direct Toxic Effects. — Direct toxicity, must be differentiated from hyper-sensitivity phenomena. Toxicity is not considered as a particular hazard, provided therapeutic dosages of only those systematically administered antibiotics which have passed the test of full-scale clinical use are employed.²⁰ Penicillin, paradoxically, is almost free from systemic toxic effects even in enormous doses—more so than other antibiotics.

Since the indications for the use of streptomycin and dihydrostreptomycin occur so infrequently, the use of these agents is rarely justified in dentistry. This also applies to chloramphenicol, since other antibiotics with proven effectiveness and safety are available.¹

ANTIBIOTIC PROPHYLAXIS

Having considered the basic principles of antibiotic therapy, the clinical indications of antibiotics in dentistry will be discussed under two major categories. Antibiotics may be used prophylactically or therapeutically.

When local or systemic conditions make the patient more susceptible to the action of pathogenic organisms, antibiotic therapy should be instituted.³⁶

Premedication with antibiotics in valvular or congenital heart disease for the prevention of subacute bacterial endocarditis is as important as the treatment of established infection.⁶ This serious disease is due to the infection of the valvular and mural endocardium. The micro-organisms involved in 87 per cent of the cases are of the *Streptococcus viridans* group, which is predominantly present in the oral cavity. The heart valves usually have been previously damaged as a result of rheumatic fever or congenital defect of the heart.⁶

Chemoprophylaxis in these patients is mandatory whenever soft tissue trauma occurs. This fact is well established and does not require elaboration.

Zubrow et al³⁶ urge us to strive to accomplish the following: (1) combat local gingival infections or other forms of gingival sepsis, (2) reduce the incidence and severity of bacteraemia occurring during the treatment by occasioning minimal trauma, avoiding multiple extractions and using vasoconstrictor agents, and (3) provide an adequate antibiotic level for at least 72 hours postoperatively.

The American Heart Association suggests an antibiotic routine for these cases. Penicillin is the drug of choice. In the light of current information this association has recognized the usefulness of oral penicillin V, when administered in adequate doses, as an alternative to parenteral injection.

Bender et al⁷ claim that oral administration should not be depended upon as a means of protection. They also advocate the use of troches composed of neomycin,

polymixin B and bacitracin*, to attack the organism at the source, the gingival sulcus.

It is important to realize that bacteraemias associated with dental manipulation can still occur even though antibiotic protection is afforded, but the presumption remains that bacterial endocarditis is less likely to occur.²⁶

The regular use of antibiotics is quite justified when oral surgery is to be performed in patients where the normal defensive responses are depressed due to some abnormality of their general condition. Infectious organisms may multiply rapidly without producing the usual warning signs of infection, thus causing serious secondary infections in already debilitated patients.

Examples of such patients are those with diabetes, Addison's disease, renal disease, rheumatoid arthritis, a history of blood dyscrasia or other haematological abnormality, and those patients receiving cortico-steroid therapy or radiation therapy for malignant tumours of the head and neck.^{1,8,29,36}

Antibiotics have been used extensively to prevent or minimize postoperative infections arising from oral surgical procedures and to improve conditions for healing. The proven value of such a practice is difficult to establish or assess since healing of oral surgical wounds in the absence of antibiotics is the general rule.³⁵

Antibiotics may be used prophylactically after creation of oro-antral fistulae, surgical treatment of large cysts and tumours, impacted teeth, multiple extractions in chronically inflamed areas, and to prevent infections when accidental trauma has occurred such as fractures of jaws and facial bones.³⁶

The decision as to whether to use antibiotics routinely in these cases will have to be considered by evaluating each case. The dentist should be guided by his clinical experience, general health of the patient, gingival sepsis, number of teeth

*Not presently available in Canada.

to be extracted or extent of bone involvement during oral surgery. "Unfortunately, there is no arbitrary standard by which to evaluate the above mentioned criteria. The ultimate decision must be based on the combined effect of all the factors involved."³⁶

A subject of particular controversy is the evaluation of topical antibiotics in postextraction wounds. A review of the literature shows this difference of opinion. Mourfield et al²¹ and Quinley et al²⁷ showed very significant reductions in the incidence of localized osteo-alveolitis (dry socket) using respectively soluble tetracycline tablets and erythromycin dental cones.

In an evaluation of this subject, several points should be stressed: (a) a routine use of antibiotic cones or pastes in all postextraction wounds is neither necessary nor justifiable.^{8,18} (b) It is difficult to condemn dictatorially the use of topical antibiotics where the dentist feels they are definitely indicated in certain selected cases.¹⁸

It must be kept in mind that the disagreeable aftermath of surgery cannot be avoided simply by the use of antibiotics. There is no substitute for sound clinical judgement and good oral surgical technique.

THERAPEUTIC USE OF ANTIBIOTICS

Antibiotics may be used with success therapeutically in the treatment of acute oral and dental disease provided the conditions described in the discussion of general principles of antibiotic therapy are fulfilled.

Acute infections of the face and jaws arising from dental or oral disease or trauma are now treated with the use of systemic antibiotics as a matter of course. Treatment measures for the various entities of acute dento-alveolar abscess, acute dental cellulitis, Ludwig's angina, facial plane infections and osteomyelitis are all similar, differing only in degree.³⁵ The eradication of established infection is the dentist's goal. Once having decided

that a specific antibiotic is absolutely necessary, the regime should be deliberate, adequate, and for a definite time. There is no such thing as a little antibiotic therapy.¹³

Systemic use of penicillin is indicated in those severe infections which are caused by penicillin-sensitive organisms. Many cases of cellulitis are mixed infections. If no response to therapy occurs within 72 hours, another antibiotic should be chosen and this may be decided by laboratory sensitivity tests. In all cases the antibiotic of choice should be coupled with judicious surgical intervention to promote recovery and a shorter convalescence.

In cases of acute necrotizing ulcerative gingivostomatitis (Vincent's infection) with constitutional symptoms, the immediate systemic use of penicillin is indicated to control the acute phase. The use of an antibiotic must be considered merely an adjunctive measure to the adequate mechanical debridement of the involved areas to remove all local irritation, the elimination of any systemic predisposing factors and the restoration of good oral hygiene.^{8,12}

The precise role of micro-organisms in other periodontal and oral diseases is not known. Consequently, the use of antibiotics is only a supportive measure. It is important that periodontal treatment measures take preference over antibiotic treatments.³⁵

Acute pericoronitis is a common condition which usually occurs around unerupted mandibular third molars. The causative organisms are often those of Vincent's infection, i.e., small spirochaetes and fusiform bacilli, which are sensitive to penicillin. The acute phase, with systemic manifestations, is controlled by antibiotic therapy in addition to suitable local measures.³⁶

The status of antibiotic therapy in the field of endodontics is a controversial topic. Degnan states that: "it is generally conceded that success in endodontics is primarily dependent upon rendering the root canal and periapical tissues sterile prior to the filling of the canal. The single

most important factor in achieving this state is proper mechanical debridement of the canal; antibiotics locally or systemically will not debride a canal."⁸

In the last decade there has been a marked tendency to use various polyantibiotic combinations in endodontics (Grossman¹⁴, Rubbo et al³¹, and many others).

Ostrander²³ feels that antibiotic therapy is not suitable for routine use in endodontics since there are no appreciable advantages to warrant its use. It would be more rational to reserve it for special cases such as pulp canals containing bacteria sensitive to antibiotics but resistant to local antiseptics and germicides.

Thomas concludes that unfortunately no ideal agent for the sterilization of root canals exists but that "camphorated paramonochlorophenol is probably the simplest, most effective and least irritating of all the non-specific drugs or techniques."³²

SUMMARY

There is little doubt that the practice of dentistry has advanced considerably in the last fifteen years. One of the contributing factors has been the advent of the era of antibiotic therapy. As a result of this development, rapid changes have been occurring in the treatment of established dental and oral infection as well as in the prevention of impending infection.

It has become necessary to pause and consider the current status of antibiotic therapy in dentistry. In order to do this, we have had to consider some of the more relevant basic principles involved. This basic knowledge is indispensable for a discriminating and understanding clinical use of these valuable, yet potentially dangerous agents.

The fundamental cause for many of the failures arising from the use of antibiotics in dentistry can be traced directly to ignorance or disregard of one or more of the elementary rules of antibiotic therapy.

The scientific practitioner who reflects upon the general principles of antibiotic therapy will be alerted to the potential dangers accompanying injudicious and unjustified use of these drugs. "The mushrooming cloud of resistant organisms and sensitivity reactions is surely a by-product of this type of usage."³⁶

The failure to employ these agents when they are unequivocally indicated is to be as thoroughly condemned as is their routine use in dental procedures.

Although it is difficult to establish inflexible rules for antibiotic therapy, the ultimate decision as to whether to employ antibiotics at all, the antibiotic of choice, the method of administration, dosage and duration of therapy, can only be made on the basis of a studied evaluation of all the factors involved. These are: a sound knowledge of the basic principles of antibiotic therapy, experienced clinical judgment, accurate diagnosis, consideration of the patient's natural health and resistance, and finally, the sense of responsibility of the individual dentist.

RÉSUMÉ

L'auteur, après avoir décrit les grands principes de la médication antibiotique, discute du choix des antibiotiques en regard de leurs propriétés respectives et basé sur la rapidité avec laquelle ils diminuent le compte des bactéries pathogènes.

Il expose les avantages et les inconvénients de l'administration topique, buccale ou parentérale en rapport avec le dosage et la durée de la médication. L'auteur, en discutant les dangers possibles de la médication antibiotique, touche à la création de catégories de bactérie résistante aux antibiotiques, aux réactions allergiques, à la destruction de la flore normale et aux effets directement toxiques.

Il appuie particulièrement sur la prophylaxie antibiotique en rapport avec les endocardites et les maladies congénitales du coeur et sur l'usage des antibiotiques

dans le traitement des infections aiguës et les autres pathologies dentaires.

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1961 C.D.A. DIRECTORY

The 1961 issue of the C.D.A. Directory is now available from Association Headquarters at \$1.00 per copy. The Directory contains a complete list of names and addresses of Association members and officials.

Recruitment of Dental Students through Subsidization

K. M. BAIRD*, D.D.S., Ottawa, Ontario

The profession has been more than a little concerned in recent years with the question of recruitment and with the difficulties which apparently are responsible for the diminished response from suitable candidates. The Canadian Dental Association and its corporate members have accordingly given much thought to the initiation of various programs, on both the national and local levels, to portray our profession in the proper light and to encourage eligible students to consider it as a career. Dentistry requires an expensive training and one of the important deterrents to any potential student is the financial consideration. Since 1948, the Department of National Defence has maintained a program of subsidization for dental undergraduates which is aimed at recruitment for the Royal Canadian Dental Corps but which, as a side effect, assists in providing many capable and well-informed dentists for the civilian profession.

It has been the view of certain of the civilian organizations that the Royal Canadian Dental Corps program of subsidization has been of little value from their standpoint because it has served primarily to skim off, for the armed forces, a number of candidates who would otherwise have been available immediately on graduation for service in the towns and communities. Those who have conceded that a certain number from the Corps do return to civilian practice further contend that they do so to parts of Canada other than those in which they were recruited and trained. In this regard it might be interesting to examine

a few of the statistics. A total of 257 dental students have been enrolled for subsidization since the inauguration of the two plans sponsored by the Department of National Defence and in effect until this time. Table 1 indicates the present disposition of these candidates. Table 2 indicates the disposition of the graduate candidates according to their area of recruitment and their location of practice. Table 3 indicates the disposition of the graduate candidates according to their university and their location of practice.

The effect of this subsidization program then, while of inestimable value to the Corps, would appear to have been of benefit to the profession as well. Aside from the financial assistance provided, the participants have received a generous dividend by way of the military and technical

TABLE 1 Present disposition of R.C.D.C. subsidized candidates.

Number of candidates enrolled	257
Number now graduated	203
Number of graduates released from R.C.D.C.	97
Number of graduates still serving in R.C.D.C.	106
Number serving beyond period of compulsory service	52
Number serving within period of compulsory service	54
Percentage of graduates who completed compulsory service and now in practice	64.2%

*Director General of Dental Services for the Canadian Forces.

TABLE 2 Disposition of graduate candidates according to their area of recruitment and their location of practice.

Home Province	No.	Present Location					
		Atlantic Prov's.	Que.	Ont.	Western Prov's.	R.C.D.C.	Misc. or unknown
Atlantic Provinces	43	7	1	2	1	30	2
Quebec	43	1	16	2	—	24	—
Ontario	59	—	2	24	1	31	1
Western Provinces	51	—	—	2	28	20	1
Miscellaneous or unknown	7	—	—	2	2	1	2
TOTAL	203	8	19	32	32	106*	6

*54 of these have not yet completed their period of compulsory service.

TABLE 3 Disposition of graduate candidates according to their university and their location of practice.

University	No.	Present Location					
		Atlantic Prov's.	Que.	Ont.	Western Prov's.	R.C.D.C.	Misc. or unknown
Alberta	39	—	—	1	24	14	—
Toronto	63	—	—	23	6	33	1
McGill	27	1	7	5	—	13	1
Montréal	38	—	14	1	—	23	—
Dalhousie	36	7	—	1	1	23	4
TOTAL	203	8	21	31	31	106*	6

*54 of these have not yet completed their period of compulsory service.

training that is an inherent part of both the undergraduate and graduate phases of the program. There is no doubt in the mind of anyone who is familiar with the training involved, that the young dentist entering practice after service with the R.C.D.C. is in an excellent position to establish himself on a sound and rewarding basis. His military training has emphasized the development of his qualities of self-reliance and leadership and taught him to think and act as an officer and in the final analysis, as a good citizen. His professional and technical training have provided an opportunity during his early years after graduation to associate with and receive guidance from experienced and well-trained dentists; to develop skill and knowledge in the handling of patients

and to utilize the services of first-class auxiliary personnel. He has had the opportunity of working with technical dental equipment and supplies of the latest design and of various makes and types and of deciding for himself which are the best-suited and most practical for his own needs. Overall he has received a training obtainable only in the R.C.D.C.

A new plan has now been authorized for the subsidization of dental undergraduates which replaces the two plans previously in effect and which combines and extends the benefits of both. Basically this plan provides the cost of all fees, instruments and books for the four academic dental years and employment and training for the three intervening summers. During the first twenty-four months

of this 45-month period the student receives the pay and allowance of an officer cadet and during the remaining 21 months that of a 2nd lieutenant. In addition, of course, there are the many other privileges and advantages of holding a commission in Canada's armed forces. On graduation he is promoted to the rank of Captain and proceeds to full-time service with the Corps for a period of five years during which time he may apply for conversion to Regular Officer status if he elects to remain in the Service as a career. Naturally the benefits of such a program cannot be extended to all who apply and a quota has been established for the yearly intake. Applicants are interviewed by a selection board and by a Personnel Selection Officer whose recommendations along with the scholastic record are all considered as a basis for acceptance. In this regard it is interesting to note that out of the total of 257 accepted for enrolment up to the present time, only five have been lost as training failures while in university.

The value of this program would therefore seem to be a natural part of any project to encourage young high school graduates to consider the profession as a career. The monetary aspects may provide the immediate appeal but the greatest yield is to be derived from the long-

range benefits of training, experience and guidance.

RÉSUMÉ

Etant donné que le recrutement d'étudiants aptes à exercer la profession est un problème qui fait l'objet d'une étude attentive, il est à signaler que la valeur du programme d'aide financière dans le cas du Corps dentaire royal canadien pourrait constituer un moyen d'encouragement. Depuis l'inauguration de ce programme en 1948, 257 étudiants au total se sont enrôlés et sur les 149 qui, après avoir reçu leur diplôme, ont accompli leur période de service obligatoire, 64.2% ont été libérés en vue d'exercer leur profession dans la vie civile. On vient d'autoriser l'institution d'un nouveau programme d'aide financière pour la formation d'officiers dentistes, destiné à remplacer, en en augmentant les avantages, les deux programmes précédents. Outre l'aide financière offerte, ce programme assure une formation militaire et technique des plus intéressantes, de même qu'une excellente préparation à l'exercice de la profession ainsi que la faculté de se faire une carrière dans le Corps dentaire.

Department of National Defence

The Next Step

G. C. SWANN, D.D.S., M.Sc., Calgary, Alberta

In the past the incumbent president of the Alberta Dental Association has been

given the privilege of addressing the members at the annual meeting—and it is a practice which I am happy to continue today. I say this for two very definite reasons. In the first place it is an honour

Presidential address delivered at the annual meeting of the Alberta Dental Association, Calgary, April 21, 1961.

to have worked with you and on your behalf these past twelve months, and secondly, because I believe that the success of our profession depends upon you and those to follow you. When I speak of the success of our profession, I am not talking about success in the usual and monetary sense — but rather of the general well-being of the profession at large, of its appreciation in the eyes of our fellow men, of its contributions to the health and wealth of our nation, of its growth as an essential health science—more general considerations, you will observe, than one is usually concerned about.

You may ask why I am so concerned about generalities when there is an immediate job to do, when we are continually plagued by groups who wish to lower standards, when we are told we are not doing our job and meeting our responsibilities to our society so much so that governments on all levels seem to have lost patience.

The reason I am concerned, and I hope you will be as well, is that we have been slow to recognize that we are living in a changing world which is a vastly different place in many ways from the society into which the members of our profession graduated even ten years ago. We have been too satisfied and smug in the realization that we belonged to a profession of individualists who would rather be individualists than anything else; who would die or be submerged rather than change. Our profession has often become like the immovable object in the face of the irresistible force of a changing society. The modern world has no room for the desiccated academic who lives in an ivory tower oblivious of the trends of mankind.

We in Canada and especially in Alberta have received the highest level of dental education available on this continent. We have the opportunity of continually enhancing our standards through postgraduate courses, seminars and dental society clinics. Many practising dentists take advantage of this continuing education. But the great difficulty in education is to get experience out of ideas. We are all given

every opportunity to learn the technical advances in dental science. There should be no concern for our individual technical ability—our ability to render good dental care. My concern is for our ability to practice the art of dentistry as well as the science. In this context the art of dentistry refers to our relationship with our fellow man, whereas the science has more to do with dentistry unto itself, rigidly circumscribed by advances in technical procedures.

It has become increasingly clear over the years that a change must be made in the traditional approach to dental practice—no longer can we go on ignoring everyone else and confining ourselves to our small offices for years at a time. We cannot survive in that manner any longer either socially or economically; and we are rapidly approaching the point where we cannot survive technically either.

What is the answer to this dilemma? It can only lie in the development of a greater social consciousness within our profession, in the development of a stronger professional association, in the development of an enthusiasm for our own personal contribution to our profession and to our society. It can only come about through a willingness to change individually for the benefit of the group, through recognition that we cannot stand still in a changing world. We must be more interested in practice efficiency, not merely on an individual basis, but in terms of the whole profession, so that the mass of society benefits. Make no mistake about the need to adapt to the fickle masses. They control our lives, both personal and professional.

There has been much discussion about group practice — which has never been noted for its popularity in dentistry in the past. It could very well be that such professional association is the start of the answer to greater professional efficiency and ultimately to increased public appreciation of dentistry. The important thing in this matter is the recognition that what seems appropriate today, may not necessarily be the answer tomorrow.

The attitude of the public is reflected frequently in the relationship between the dental profession and the government. While I question the validity of this statement with reference to the recent backward legislation passed in Edmonton, these events should be a warning that public thinking could follow this line unless we are prepared to extend our services to all economic levels. But we must not make the mistake of permitting another standard of dentistry. History has clearly shown that when a profession lowered itself to or permitted a level of lesser trained groups, chaos and degradation ensued. We must follow our proper path of ever-increasing standards and extend our services through prepaid and postpaid dental care plans, the proper use of trained auxiliaries, improved practice efficiency, continuing education and clinics where members of our profession may take postgraduate courses while providing the highest calibre of dental service to people of all income levels. These can be established on the dental society level, and have been eminently successful in certain areas of the United States.

Our profession has been criticized in the press for an inept campaign to stop the passing of Bill 59, an Act respecting Certified Dental Mechanics, which provides legal recognition to the hitherto illegal dental mechanics in Alberta. The implication is that we should have been "playing politics", lobbying and getting

the truth before the members of the legislature. The fact is, gentlemen, that we were strongly warned by the Minister of Health to refrain from lobbying. We were advised that the government sponsored dental technicians' bill would likely remove any possibility of the mechanics' bill reaching the private bills committee stage. Some five months ago, the association presented a program for providing denture service at low cost through outpatient prosthetic departments in chronic disease hospitals throughout the province. These were to be administered by the Alberta Dental Association. The government showed little or no interest in our proposal. Some three weeks ago we were advised that the Social Credit Party caucus was 80-90 per cent in support of the illegal mechanics. Our presentations before the private bills committee could not stem this emotional anti-professionalism which exists in the rank and file of our government. Excellence means nothing — cost everything.

We have only begun to fight for what is morally right. We shall need the support of every member of our profession. To us has been given the responsibility of maintaining the dental health of the people of Alberta. We must not shirk that responsibility, but rather meet the challenge with renewed vigour. This alone will give added strength and stature to our profession.

53 Academy Medical Building

CHANGE OF ADDRESS

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Changes in the Mandibular Fossa of the Rat Following Unilateral Condylectomy

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Orthodontists have held the opinion that the correction of certain types of malocclusion results in a repositioning of the mandible. Humphreys¹ felt that he had achieved a permanent forward position of the mandible in children up to the age of nine years. Because the articular eminence is not as yet completely formed in this development period, he assumed that mechanical retention allowed the temporal surface of the actively growing joint to be moulded around the condyle in the new position. Ricketts² reported that the relationship of the head of the condyle to the mandibular fossa had been altered in the majority of Class II (Angle) malocclusions after being treated orthodontically. He contradicted the prevalent opinion that there is a forward shift of the condyle in these instances and cited evidence to show that an upward and backward repositioning occurs.

In view of the conflicting opinions which exist concerning the nature of the changes observed, a review of the literature relating to this problem is pertinent. Classical concepts of bone formation stress the importance of function. Early theories^{3,4} which emphasized the extrinsic factors in skeletal development, were based on descriptive studies of the long bones. Later, Benninghoff⁵, studying the natural lines of stress in the bones of skulls, described "force lines" in the trabeculation pattern of the human jaw which conformed to forces exerted on it by associated musculature. Studies em-

ploying experimental methods⁶ have since shown the inherent genetic pattern of bones to be more important in early skeletal differentiation, function becoming more important as the skeleton develops.

A number of investigators have induced gross skeletal changes by altering masticatory function. Baker⁷ caused asymmetrical development of the skulls and mandibles of rabbits by a unilateral grinding of the teeth. He⁸ also produced deformities in other experimental animals by the removal of teeth and tooth germs. Pratt⁹ found that experimental masseterectomy resulted in asymmetrical development of the rat skull, retarded its mandibular development and resulted in malocclusion. Washburn¹⁰ removed part of the zygomatic arch and observed skull asymmetries when enough of the arch was removed to affect the muscles of mastication. Horowitz and Shapiro¹¹ showed changes similar to those of Pratt and Washburn following experimental removal of the masseter muscle in the rat.

Breitner¹² reported changes in the form and position of the mandibular fossa in monkeys (*Macacus rhesus*) as a result of experimental orthodontic treatment. Collins, Becks, Simpson and Evans¹³ discussed the growth and transformation of the mandibular joint of the rat; their investigation showed that, with increasing age, the cartilage-like mass of tissue covering the membranous bone of the cranial portion of the joint expands and continues to conform to the changing shape of the condyle. Sarnat and Engel¹⁴ removed the mandibular condyle unilaterally in monkeys (*Macacus rhesus*) and observed that the articular surface of the temporal bone

From a thesis submitted as partial fulfilment of the requirements for specialty certification in Orthodontics, School of Dental and Oral Surgery, Columbia University, New York.

became shallower; an increase in the articular area also occurred and the fossa was more anteriorly placed on the operated side than on the unoperated side. No experimental evidence relative to the problem of changes in the mandibular fossa of the rat following unilateral condylectomy could be found in the literature.

The functional anatomy of the mandibular joint of the rat has been thoroughly described by Collins, Becks, Simpson and Evans¹³ who state that:

"In the rat, as in man, the mandibular articulation is a ginglymoarthrodial joint. This type of joint allows ample hinge action for the use of molars in grinding and sliding action for gnawing with incisors.

"The cranial portion of the joint is formed by an elongated groove in the squamosal bone. The long axis of the groove lies in the antero-posterior plane and is directed upward and backward. The fossa faces downward and backward. It is divided into an anterior and a posterior part by an eminence which is continuous with the zygomatic process of the squamosal. The part of the fossa posterior to the eminence accommodates the condyle of the mandible when the molars are being used in chewing. That part of the fossa anterior to the eminence accommodates the condyle of the mandible when the incisors are being used in gnawing. The eminence not only divides the fossa into two parts, but also into two levels. The inferior part is approximately in the plane with the lower part of the eminence and the superior part is in that of the upper part of the eminence.

"The mandibular part of the joint, formed by the condyloid process, consists of two parts; the condyle and the constricted part which supports it, the neck. The condyle presents a surface for articulation with the articular disk of the joint. The anterior-posterior directed axis of the condylar head in the rat is, in the adult, approximately twice as long as the length of the short axis. (This is in contrast to the position of the long and short axis of the condyle in man.) The neck is flattened from side to side and is strengthened by ridges which descend from the anterior and posterior borders as well as the sides of the condyle.

"The mandibular joint in the rat, as in other rodents, is adapted for gnawing or cutting with the large incisors. In this animal the incisors erupt continuously throughout life replacing the tooth structure of the incisal edge which is being ground away. In performing this action, the condyle moves downward and forward into the anterior and longer half of the fossa. The lower jaw is protruded until the incisors meet. The lower incisor can be placed anteriorly or posteriorly to the upper incisors. In chewing with the molars, the condyle moves backward and upward into the posterior and shorter half of the glenoid fossa."

METHODS AND MATERIALS

Twenty-four male Sherman strain rats were used in this study. These animals were weaned at three weeks of age and placed on McCollum Rat Diet supplemented with Purina chow biscuits, white bread and fresh greens.

Unilateral condylectomy was performed on ten rats ranging in age from 23 days to 40 days at the time of operation. Operations of a similar nature were carried out on four other rats. In two of these animals surgical interference was duplicated on the muscles traumatized in the condylectomy procedure. Condylectomy was performed on the remaining two animals but the resected head of the condyle was not removed from the joint capsule. Ten littermates served as unoperated controls.

Surgical procedures were carried out under general anaesthesia. After induction with ether, an intraperitoneal injection of sodium pentobarbital (4 mg./100 Gm. body weight) was used to obtain surgical anaesthesia. All the operations were performed on the right side. The side of the face was cleared of fur and the skin was incised vertically just anterior to the ear along a line extending from the level of the orbit to the angle of the jaw. A second incision was made perpendicular to the first from a point anterior to the zygomatic arch and extending along the lower border of the arch to meet the vertical incision.

The skin was reflected exposing the fascia and platysma muscle. The facial

TABLE 1 Age and body weights of animals.

Age (Days)			Weight (Grams)			
Animal Number	At Operation	At Sacrifice	Days Post-operative	At Operation	At Sacrifice	Control at Sacrifice
1	31	102	71	55	142	255
2	40	83	43	85	220	235
3	34	61	27	92	200	220
4	34	67	33	92	217	180
5	27	48	21	40	92	—
6	29	55	26	55	124	135
7	24	39	15	47	97	110
8	24	39	15	47	84	105
9	24	43	19	47	110	120
10	25	36	11	45	75	85s
Other Operations						
11#	25	36	11	46	80	85s
12*	25	36	11	52	105	85s
13#	25	58	33	47	155	—
14*	23	49	26	41	158	168

Animal with condyle cut, but left in situ

* Masseter cut and area traumatized

s Same control

nerves, vessels and parotid gland were retracted and a horizontal incision was made in the masseter muscle at the lower border of the zygomatic arch. The mandible was depressed and the head of the condyle exposed by blunt dissection. Par-

ticular care was taken to avoid injury to the vein which leaves the transverse sinus through the post-glenoid foramen. A fine forceps was introduced and the tissues carefully freed from around the posterior aspect of the condyle. A surgical scissors

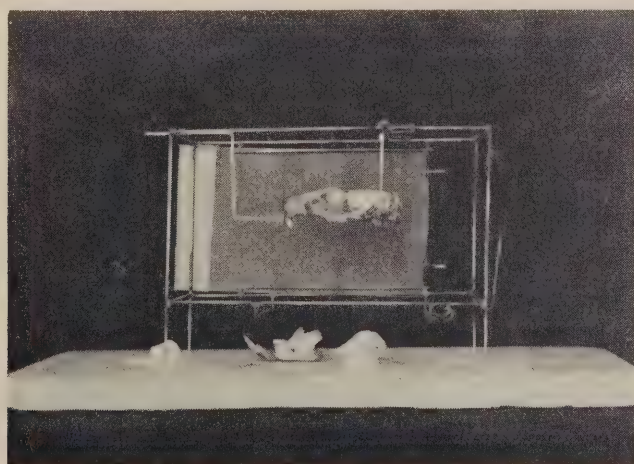


FIGURE 1 Apparatus used to position the heads for radiographs.



FIGURE 2a Tracings of an enlarged lateral radiograph. The area included in the tracing is shown in Figure 2b. M. F., mandibular fossa; T. B., tympanic bulla; M.T., molar teeth.

was applied from this same direction and the head and neck of the condyle was removed from the articular capsule by blunt dissection. The articular capsule was left in situ. The incisions were closed and sutured with black cotton.

Operated and control animals were sacrificed at varying time intervals from eleven to seventy-one days postoperatively (Table 1). The heads of these animals were removed and fixed in formalin at the time of sacrifice. These fixed specimens were radiographed* in superior-inferior and antero-posterior views. An apparatus (Figure 1) was constructed in order to attain a consistent positioning of the heads for radiographs. Since lateral views of these skulls gave poor structural definition, a number of skulls were carefully hemisected and radiographed.

Ink tracings of superior-inferior, antero-posterior and lateral radiographs were made on Tracolene paper and printed on commercial photographic paper. Tracings of lateral radiographs (Figures 2a and 2b) included the mandibular fossa, the

tympanic bulla and the molar teeth. For purposes of comparison a line was drawn parallel to the occlusal surfaces of the molar teeth. A perpendicular was erected from this line at the most anterior point of the tympanic bulla. Tracings were superimposed on the occlusal line and the outline of the molar teeth. This procedure proved valid as it demonstrated symmetry of parts when applied to the unoperated controls.

The vertical line in the superior-inferior tracings (Figures 3, 4) was drawn along the median palatine suture to represent the midline. To this line a perpendicular was erected tangent to the posterior curvature of the aperture formed by the zygomatic arch. This line was used to compare the antero-posterior position of the operated fossa with the unoperated fossa.

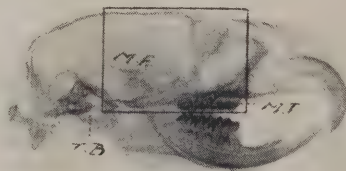


FIGURE 2b Lateral radiograph. The rectangle limits the area included in the tracings.

*Regular, no-screen film was used in a cardboard holder at a target distance of twelve inches, and a current of ten milliamperes at ten kilovolts per second was employed for three-fourths of a second for superior-inferior views, and one second for antero-posterior views. Industrial type film in a cardboard holder was used in lateral views of hemisected specimens at a target distance of twenty-five inches, and the film exposed for fifteen seconds with a current of ten milliamperes at fifty kilovolts per second.

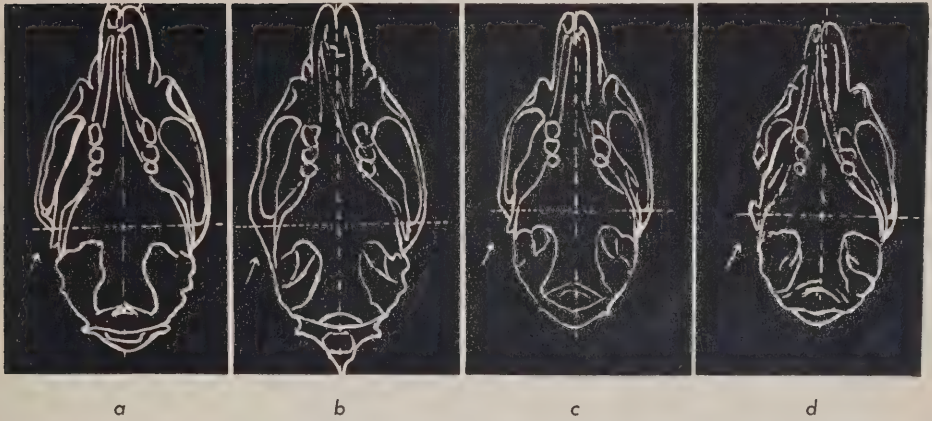


FIGURE 3 Tracings of superior-inferior radiographs of rats which received unilateral condylectomy. The arrow indicates the operated side. Note how the zygomatic process of the squamosal bone falls ahead of the horizontal base line indicating a forward position of the mandibular fossa on the operated side. (a) Animal No. 4 (see Table 1), 33 days postoperatively; (b) animal No. 3, 27 days postoperatively; (c) animal No. 6, 26 days postoperatively; (d) animal No. 5, 21 days postoperatively.

The lines in the antero-posterior tracings (Figures 5, 6) were established similarly. The horizontal line was drawn perpendicular to the midline at the most superior level of the mandibular fossa.

Gross dissection of the mandibular fossa area was carried out on control and operated animals with the aid of a dissecting microscope. The skulls were cleaned and dried, examined under the dissecting

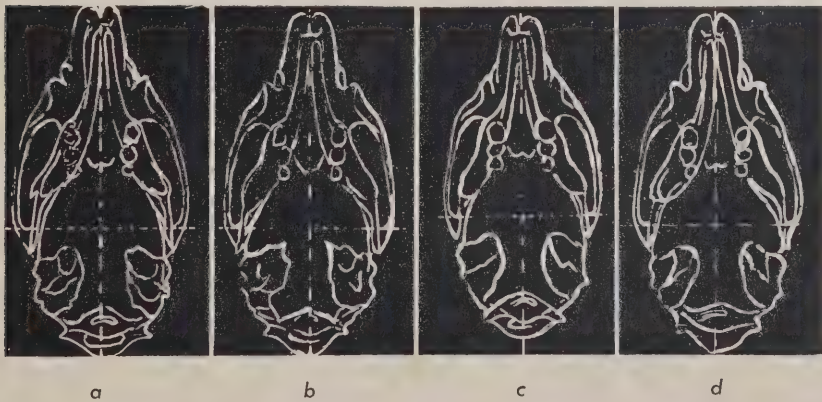


FIGURE 4 Tracings of superior-inferior radiographs of unoperated controls. Note bilateral symmetry of the zygomatic processes.

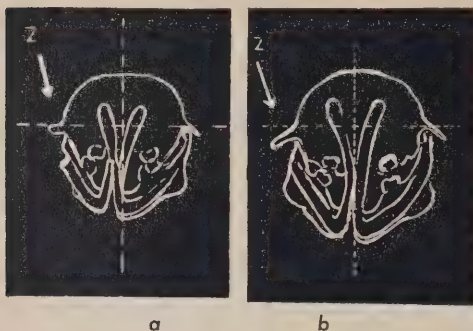


FIGURE 5 Tracings of antero-posterior radiographs of rats on which unilateral condylectomy was performed. The arrow indicates the operated side. Z., zygomatic process of the squamosal bone. Note how the zygomatic process containing the mandibular fossa extends at a more obtuse angle on the operated side indicating a shallower mandibular fossa. (a) Animal No. 5, 27 days postoperatively; (b) animal No. 2, 43 days postoperatively.

microscope and further studied by means of radiographs and photographic enlargements.

RESULTS

The operated animals survived with no apparent evidence of ankylosis or mandibular disability; in some instances the animals took food shortly after recovery from the anaesthetic. All animals were in good health as judged by their appearance; operated and control animals showed little weight difference when sacrificed.



FIGURE 6 Unoperated controls show bilateral symmetry of these structures.

All condylectomized animals developed a mandibular shift to the operated side which varied from a slight to an extreme shift. Animals operated at an earlier age appeared to acquire a more marked mandibular deviation than those operated at a later stage of development.

Gross dissection revealed varying degrees of atrophy of the antero-superior portion of the masseter muscle on the operated side in all of the experimental animals. The stump of the condylectomized mandible was found to be attached to the mandibular fossa area by dense fibrous tissue. The coronoid process was lengthened and extended above the zygomatic process. The zygomatic process of the squamous bone became continuous with the zygomatic arch supero-inferiorly in an almost straight line (Figure 7a) as

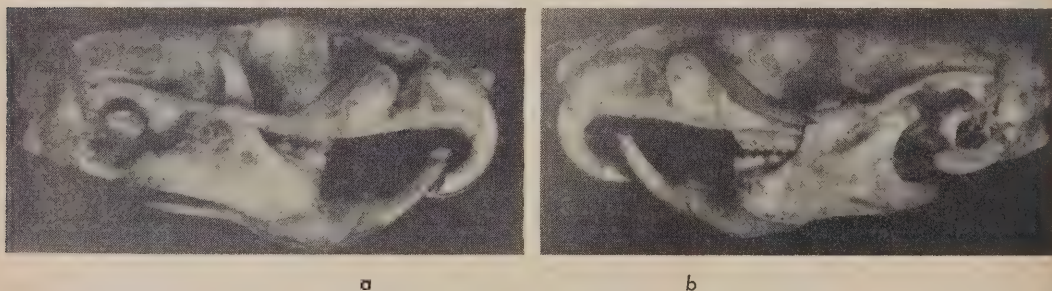


FIGURE 7 Enlarged photograph of animal No. 3, twenty-seven days postoperatively. The zygomatic process of the squamous bone becomes continuous with the zygomatic arch in an almost straight line (a). Compare with sigmoid curve on the unoperated side of the same animal (b). The fossa also appears at a lower level on the operated side.

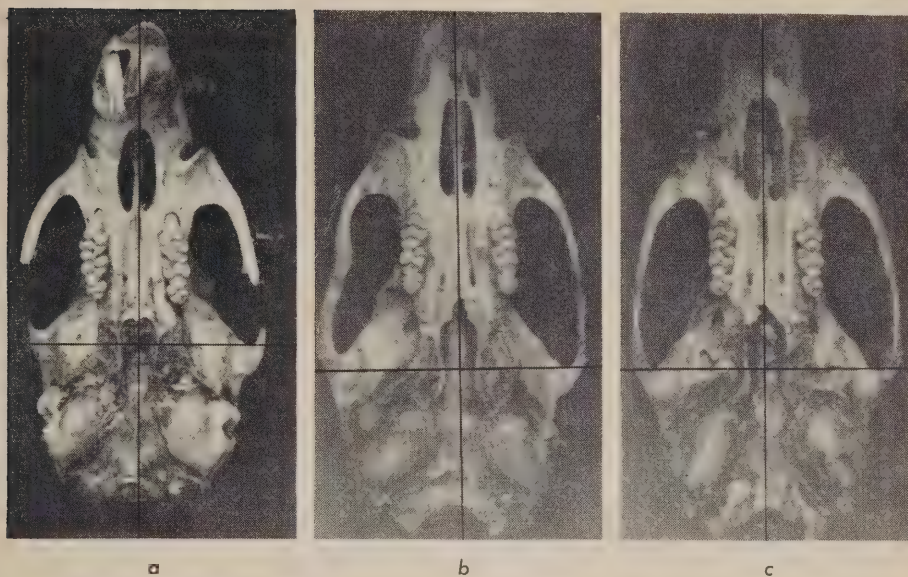


FIGURE 8 Enlarged photographs of condylectomized animals. The mandibular fossa on the operated side is anterior to the fossa on the unoperated side. (a) Animal No. 1, seventy-one days postoperatively; (b) animal No. 3, twenty-seven days postoperatively; (c) animal No. 3, unoperated control.

compared to the usual sigmoid curve (Figure 7b).

Examination of the cleaned, dried skulls disclosed that the form and position of the mandibular fossa on the condylectomized side had been modified. When compared with the fossa of the unoperated side, it appeared shallower and was found to be in a more anterior and inferior position; photographs (Figures 8, a and b) and radiographic tracings (Figures 3, a, b, c and d) from a superior-inferior view showed this anterior displacement in all of the unilaterally condylectomized animals. No correlation between the degree of mandibular deviation to the operated side and the mandibular fossa shift forward could be noted. Photographs (Figure 8c) and superior-inferior radiographic tracings (Figures 4, a, b, c and d) of unoperated controls showed a bilateral symmetry in the relative positions of the fossae.

The superior-inferior position of the mandibular fossa on the operated side (Figures 11, a, b and c) was compared with the corresponding position of the fossa on the unoperated side (Figures 11, d, e and f). The operated fossa was found to be at a more inferior level; this was clearly demonstrated when the tracings of the lateral radiographs of hemisected skulls were superimposed (Figures 9, a and b). Unoperated controls showed a bilateral symmetry (Figures 10, 12).

Lateral radiographs (Figures 11, a, b and c) and tracings (Figures 9, a and b) also showed a marked flattening of the normally rounded eminence of the fossa on the operated side. A change in direction of slope of the long axis of the fossa from downward and backward to downward and forward was also noted.

Antero-posterior radiographs (Figures 5, a and b) revealed that the zygomatic



FIGURE 9 Tracings of lateral radiographs; operated side superimposed on the unoperated side of the same animal. R., the fossa on the side of condylectomy is in a more inferior position than L., the fossa on the unoperated side. The operated fossa is flattened in its anterior portion, and the direction of the slope of its long axis is altered to an upward and forward direction. (a) Animal No. 2, 43 days postoperatively; (b) animal No. 4, 33 days postoperatively.

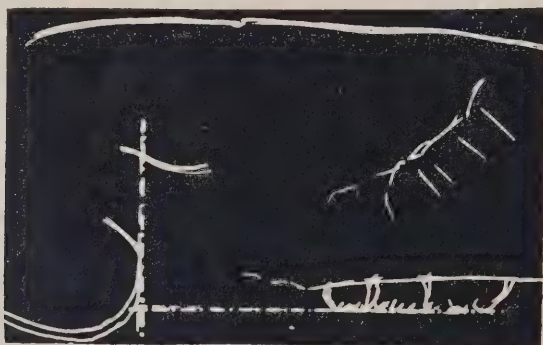


FIGURE 10 Tracings of the lateral radiographs of control animals; right and left sides superimposed on the occlusal plane and outline of the molars. Note symmetry of the structures.

process of the squamosal bone, containing the mandibular fossa, extended at a more obtuse angle from the squamosal bone on the operated side. This indicated that the mandibular fossa was shallower on the side on which condylectomy had been performed. As noted, unoperated controls (Figures 6, a and b) displayed a bilateral symmetry of these structures as well.

DISCUSSION

In the experiments reported here, gross changes involving skull asymmetries, mandibular changes and malocclusion were evident following unilateral condylectomy. These changes have previously been reported as the result of experimental masseterectomy. Since disturbance of

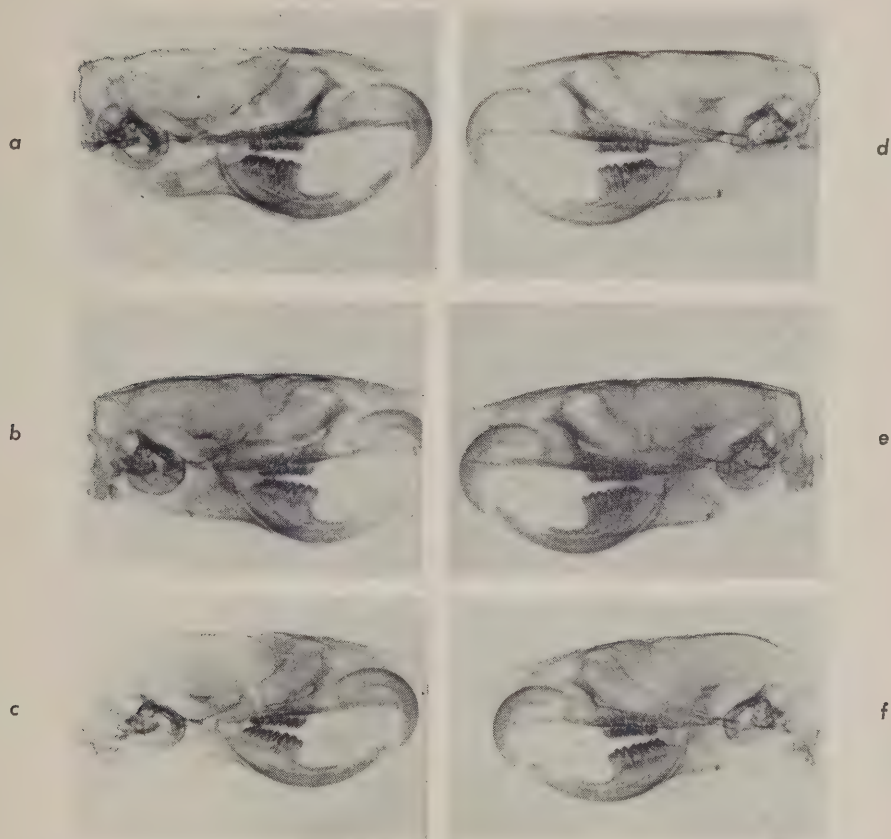


FIGURE 11 (a, b, c) Lateral radiographs of animals on which unilateral condylectomy was performed. Note the marked flattening on the rounded eminence of the mandibular fossa. (a) animal No. 2, 43 days postoperatively; (b) animal No. 4, 33 days postoperatively; (c) animal No. 7, 15 days postoperatively. (d, e, f) Unoperated sides of animals in (a, b, c).

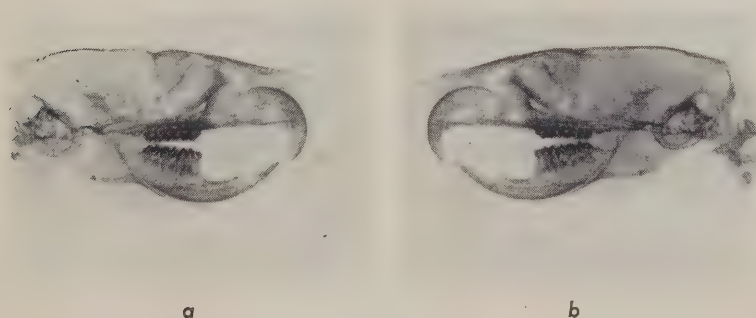


FIGURE 12 Lateral radiograph of unoperated control animal No. 7. (a) Right side; (b) left side.

masseter function was important in producing such changes, it was felt that interference with masseter was also a possible factor in producing the alterations in the mandibular fossa.

In order to evaluate the role of surgical trauma in the results obtained, the following operations were performed:

(a) Fibres of the masseter were cut in two animals.

(b) The neck of the mandibular condyle was severed and the condylar head left in position in two other animals.

The results obtained from these procedures failed to demonstrate any significant alterations in the mandibular fossa. The consistent appearance of the changes found in the mandibular fossa of condylectomized animals seems to indicate that interference with masseter function alone or simple separation of the head of the condyle from the ramus are not the determining factors which result in the character and extent of the changes noted.

The findings obtained in this study, which indicate that the fossa of the operated side of the unilaterally condylectomized animals is more anteriorly placed and shallower than the fossa of the unoperated side, are in agreement with those reported by Sarnat and Engel¹⁴. These investigators also demonstrated that the fossa of the operated side was more irregular and wider. This was not verified here owing perhaps to the variation in techniques and the experimental animals employed.

The altered position of the fossa on the condylectomized side may represent an attempt by nature to re-establish a functional relationship between the fossa and the stump of mandible. The fact that these changes were induced in animals ranging in age from 23 days to 40 days would bear out the findings by Collins, Becks et al¹³ that the cranial portion of the joint continues to conform to the changing shape of the condyle. The inherent genetic pattern of the mandibular fossa of the rat has been demonstrated, together with changes

in its form and position in the absence of function of the head of the mandibular condyle.

It is of interest to note that the flattening of the fossa and the change in its direction on the side of condylectomy reported here parallel the observations of Engel, Richmond and Brodie¹⁵. They reported that the temporal surface of the joint suffered a loss of contour and was flattened when temporomandibular involvement occurred in rheumatoid arthritis of childhood. Limitation of function during the formation of the fossa may have been an important factor and would emphasize the need for further clinical study.

SUMMARY

1. A total of twenty-four rats ranging in age from 23 to 40 days were used in this study. Unilateral condylectomy was performed on ten animals and ten littermates served as unoperated controls. Unilateral condylectomy was performed on two animals and the resected head of the condyle was left in situ. In the two remaining animals operative trauma of the condylectomy was simulated by surgical trauma to the masseter muscle.

2. The operated animals were sacrificed together with controls at time intervals varying from 11 to 71 days postoperatively.

3. The formalin-fixed heads of these rats were studied grossly and by radiographic tracings.

4. Unilateral condylectomy performed on young rats resulted in modifications in the form of the mandibular fossa. The fossa on the side of condylectomy is placed anteriorly and inferiorly as compared to the unoperated side. It also appears shallower and flatter, and the direction of the slope of its long axis is altered from downward and backward to downward and forward.

5. These findings indicate the importance of function in the formation of the mandibular fossa.

RÉSUMÉ

Vingt-quatre rats, de 23 à 90 jours, ont servi à cette expérience. On a excisé un condyle chez dix rats et dix autres n'ont pas été opérés pour servir de témoins. Une condylectomie unilatérale fut pratiquée chez deux animaux et les condyles laissés en place. Chez les deux autres, on a traumatisé le masseter pour simuler le traumatisme opératoire occasionné par la condylectomie.

Les rats qui avaient été opérés et ceux qui servaient de témoins ont été sacrifiés à des intervalles variant de 11 à 71 jours après l'opération. Les têtes de ces rats fixées à la formaline furent examinées macroscopiquement et à l'aide de tracés radiologiques.

Ces condylectomies unilatérales pratiquées sur de jeunes rats ont produit des changements dans la forme de la cavité glénoïde. La fosse glénoïde du côté opéré est placée antérieurement et inférieurement quand elle est comparée à celle du côté qui n'a pas été opéré. Elle paraît moins profonde et plus aplatie; la direction de la courbure de son grand axe est changée d'en bas et en arrière qu'elle était pour en bas et en avant.

Ces constatations prouvent l'importance de la fonction dans l'élaboration de la fosse glénoïde.

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750 West Broadway

DENTAL PERSONNEL IN CANADA

In January 1961, 74 dental hygienists were registered in Canada. There are no dental hygienists in Newfoundland, New Brunswick or Quebec. — C.D.A. Bureau of Economic Research.

ABSTRACTS

Comparison of a Single Application of Stannous Fluoride with a Single Application of Sodium Fluoride or Two Applications of Stannous Fluoride.

V. H. MERCER, D.D.S., and J. C. MUHLER, D.D.S., Ph.D.,
Indianapolis, Indiana

Previous studies would suggest overwhelming evidence in support of the clinical effectiveness of the single application technique when using stannous fluoride. However, since the present procedures using stannous fluoride are not completely effective, it is important to learn if increased anticariogenic benefits could be obtained by giving a second application of stannous fluoride.

Approximately 600 children, ranging in age from six to fourteen years, were divided equally into four groups according to past dental caries experience and dental age. All the children received a thorough dental prophylaxis and a clinical examination at the beginning of the study and one year later.

Immediately following the initial prophylaxis, the children in group 2 received a single application of a 2 per cent aqueous unbuffered solution of sodium fluoride, and those in group 3 a single application of an 8 per cent aqueous unbuffered solution of stannous fluoride. The children in group 4 received two applications of an 8 per cent solution of stannous fluoride, the second of which was applied within 48 hours of the first, according to the tech-

nique described by Muhler. Only the first application was preceded by a prophylaxis. The children in group 1 served as controls and received only a prophylaxis and not topical application of fluoride.

The data from this study confirm the findings of other investigators which have shown that at least four applications of sodium fluoride are required in order to demonstrate a reduction in dental caries. These data similarly confirm many previous studies which have shown the marked anticariogenic effectiveness of the single application technique using stannous fluoride.

Of considerable interest is the group which received two applications of stannous fluoride. It appears that a second application of stannous fluoride is not associated with any further reduction in dental caries as afforded by the single application, at least when the second application follows the first by only a day.

The frequency of reapplication of the stannous fluoride is a point of considerable interest. It is generally considered prudent to repeat the application in respect to the caries pattern of a particular patient and not attempt to generalize for

all patients. For example, in a highly susceptible child the single application should be repeated approximately each six months. For a child with a low susceptibility a single application once a year will probably suffice. It is important, however, to stress the fact that when ever a prophylaxis is performed, a reapplication of stannous fluoride is indicated. Considerable evidence points to the fact that not only does the pumice in the prophylaxis paste remove considerable protection from the teeth following the use of topical stannous fluoride, but also the use of abrasives in dentifrices reduces the length

of effectiveness of topical stannous fluoride.

Of real interest in this regard is the finding that the use of a stannous fluoride containing dentifrice augments and prolongs the effectiveness of topical stannous fluoride therapy. Apparently the stannous fluoride dentifrice not only reduces the loss of stannous ions from the enamel following topical therapy but it increases the amount of tin present as well as further increasing the antisolubility of the enamel.

Journal of Dentistry for Children
Vol. 28—No. 1—First Quarter, 1961

Academy of Dentistry, Toronto
Annual Winter Clinic, Thursday, November 23, 1961
Royal York Hotel

Dr. J. R. Carlton,
Chicago

Clinician: Full Upper and Lower Denture
Technique.

Capt. R. B. Walcott,
Great Lakes Naval
Training Station,
Illinois

Clinician: Operative Dentistry.

Dr. H. E. Johns,
Toronto

Luncheon Speaker: Some Aspects of Biology at the Molecular
Level as Seen by a Physicist.

*Dr. Johns is professor, Department of Physics and Biophysics,
University of Toronto; and head of the Physics Section, Ontario
Cancer Institute.*

The clinical program also includes nine group clinics given by Toronto dentists and a program of table clinics. There will also be a comprehensive display of commercial exhibits.

Out-of-town visitors, dental hygienists and dental nurses and assistants are welcome.

Visitors desiring hotel reservations should write to Dr. A. Manis, 2 Bloor Street East, Toronto, Ont.

EDITORIALS

Recruitment of Dental Students:

Some Encouraging Trends

The profession's willingness to encourage suitable young people to seek careers in dentistry is one of the brightest aspects of the current effort to step up the enrolment of undergraduate dental students in Canadian dental schools. Eighty-two per cent of the dentists who recently replied to a questionnaire on the subject circulated by the Canadian Dental Association expressed their support in this positive manner.

Other encouraging signs are being noted. The dentistry page in the special supplement of *Canadian High News* devoted to career information, which has a circulation of over 100,000 in Canadian secondary schools from coast to coast, has generated a considerable amount of interest judging by the number of requests for the booklet *Advantages of Careers in Dentistry* which have been received so far this year. For the fourth consecutive year this special page has been sponsored by a number of dental supply companies with C.D.A. co-operation. This support from the dental supply industry is gratefully appreciated.

From Alberta comes word of the largest number of applicants for admission to the Faculty of Dentistry of the University of Alberta which that school has had in recent years. The Faculty of Dentistry of

the University of Toronto has likewise experienced a marked increase in the number of applicants for admission last year, and the number of students commencing undergraduate training this fall will likely surpass the number recorded last year.

These encouraging results provide grounds for sober optimism. They reflect to the credit of those who in various ways have come to grips with the question of recruitment. Particularly commendable are the efforts of the British Columbia Dental Association with its sponsored newspaper advertisements and its bursary program at the University of British Columbia, the excellent organizational pattern of the Alberta Dental Association respecting recruitment, and the recent projects of the Ontario Dental Association at Eastertime and at the Mediscope '61 exhibit of the Canadian National Exhibition.

At the same time we should not be lulled by a false sense of security. Population statistics continue to show a steady increase. The problem of providing adequate dental services in most rural as well as in many urban areas remains to be solved. The difficulties are well known but it is most unlikely that they could not be solved.

It is particularly gratifying to record the appointment of Miss Donna Leslie of the Dental Hygienists' Alumnae Association and Mr. Charles Pierce, vice-president of Ash-Temple Limited and chairman of the Canadian Section of the American Dental Trade Association, as consultants to the National Recruitment Committee of the Canadian Dental Association. The contributions from these groups will undoubtedly enhance the value of the total effort, and should spur

every dentist to support and redouble his efforts in this national endeavour.

The foreword to the booklet *The Advantages of Careers in Dentistry* states that "Canada must have more dentists to provide the amount of dental health care needed in the country." This is now and undoubtedly will remain the case for some years to come. Not until every Canadian has reasonable access to proper dental care can we afford to relax in the belief that "post tenebrae lux"—after darkness comes the dawn.

Prevention of Postextraction Bacteraemia

Transient asymptomatic bacteraemia follows procedures which require the manipulation of tissue associated with body orifices. In susceptible persons these procedures are regarded as predisposing causes of subacute bacterial endocarditis. A recent study by Millard and Tupper¹ showed that dental extraction is the most prominent dental predisposing cause while rheumatic and congenital heart disease were the most common predisposing systemic causes of subacute bacterial endocarditis. Bacteraemia is also associated with endodontic and periodontal procedures. Gram-positive organisms, such as streptococci and staphylococci, are recoverable from blood cultures following manipulation of this kind. The predominant organism in ninety-five per cent of cases of subacute bacterial endocarditis is the *Streptococcus viridans*, a normal inhabitant of the mouth. It is also the leading causative organism in those instances in which a dental procedure is the predisposing cause.

Though some strains appear to be relatively insensitive to penicillin, antibiotic prophylaxis remains an effective measure, indeed one of critical importance in the

patient with a history of rheumatic fever, rheumatic heart disease, or a congenital heart defect where the organisms are liable to lodge on valvular structures congenitally deformed or damaged by previous disease.

In view of the association of *Streptococcus viridans* endocarditis with rheumatic and congenital heart disease, penicillin, though not completely adequate, can be used prophylactically with good effect. A significantly high mortality rate in the absence of proper preventive treatment indicates that the production of bacteraemias in susceptible individuals constitutes a serious risk to life. To prevent organisms from lodging on the heart valves or to eradicate them promptly before the formation of a vegetation, high levels of penicillin in the blood immediately before and for a period of several days after the given procedure are recommended.

Parenteral administration is the method of choice for maximum assurance of adequate serum concentrations. One method consists of the intramuscular administration of 200,000 to 300,000 units of crystalline penicillin G with 600,000 units of

procaine penicillin G half an hour before the operation. The patient receives an additional injection of 600,000 units of procaine penicillin G eighteen to twenty-four hours postoperatively.² If this is inconvenient, 500,000 units of an oral form of penicillin are substituted during the two to three days following the operation. Buffered penicillin G, benzathine penicillin G or a penicillin V preparation are considered suitable for this purpose.

Because of practical considerations, many dentists may have to rely on oral penicillin alone. 500,000 units of buffered penicillin G, benzathine penicillin G or penicillin V, taken every four to six hours beginning twenty-four hours before the operation, and continued on the basis of 500,000 units daily for four to five days postoperatively, constitute an acceptable oral prophylactic schedule.

For patients who are sensitive to penicillin or who demonstrate a history of hay fever, allergy, or asthma recourse may be had to erythromycin, 250 mg. by mouth four times daily for adults and older children; for small children 20 mg. per pound

per day in three or four evenly spaced doses, not exceeding 1 Gm. per day.

Part of the treatment of patients with subacute bacterial endocarditis is aimed at creating favourable oral conditions while the patient is receiving systemic therapy for his disease. The possibility for extractions' becoming necessary are thereby reduced and a possible source of recurrent disease is eliminated.

The patient with a history of rheumatic fever or congenital heart disease must be made fully aware of the serious nature of his condition and the necessity for maintaining good oral health. The maintenance of oral health will eliminate possible sources of self-induced bacteraemias, control periodontal disease and dental caries, and, probably, reduce the necessity for dental extractions.

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Emergency Services Needed

"It's a lamentable state of affairs when all dentists leave town at the same time. Couldn't they get together and arrange that one of them be available in case of emergency?"

The paragraph above is from a Canadian town's newspaper. It illustrates the ill feeling which can be generated against members of a health profession, probably as the result of forgetfulness on the part of the dentists concerned.

The Canadian Dental Association has long advocated establishment of emer-

gency services outside of regular office hours. Many Canadian cities have such programs. Usually just knowing that dental service will be available if necessary will satisfy most citizens. Even in the town with only one dentist, a word to the local paper or telephone operator will inform people of absences of the dentist. Looking for a dentist and not finding one seems to cause irritation. If people know when he is not available they can make other arrangements or wait a little more patiently.

K.L.C.

CORRESPONDENCE

The Journal devotes this section to comments by readers on topics of current interest to dentistry. The editor reserves the right to edit all communications to fit available space and requires that all letters be signed. Printed communications do not necessarily reflect the opinion or official policy of the Canadian Dental Association. Your participation in this section is invited.

ALTERNATIVES TO WATER FLUORIDATION

I want to make some comments relative to the editorial "Alternatives to Water Fluoridation" (J.C.D.A. 27:522, August 1961). Before doing so I would like it to be clearly understood that I have no desire to be destructively critical, realizing as I do, that the Journal purports to speak for the Association as a whole and, therefore, has limitations, at least editorially.

I shall confine my remarks to one sentence taken out of context from page 523 — "The use of fluoride tablets or concentrated fluoride solutions, while worthy of further investigation, cannot at present be considered a substitute for communal water fluoridation, which has been established as a controllable, safe, effective and inexpensive health measure for controlling dental decay".

As this was the substance of a resolution adopted at the recent annual meeting of the Canadian Public Health Association in respect to alternative systemic fluorides, I of course am compelled to go along. What concerns me is the fact that both the sentence in the editorial and the resolution of the C.P.H.A. stops where it does. By implication, and we have had this experience, the casual reader, layman or anti-fluoridationist easily jumps to the conclusion that fluorides, by any other vehicle than water, are of no value and are to be condemned or opposed out of hand. I for one accept the meaning of the word "substitute" as conveying a number of proven facts with which I agree. On the other hand I strongly feel that the issue could and should be clarified in some manner by conveying the idea that where water fluoridation is not possible or feasible, systemic fluoride in some other form may on presumptive evidence be useful as an *alternative*. This I believe would be a more forthright position for the profession to take based on (a) the available evidence from the litera-

ture of increasing use of alternative methods both privately and publicly and, (b) the not inconsiderable percentage of our population, who will not in the foreseeable future be in a position to obtain the benefits of water fluoridation even if all communal systems were to be fluoridated.

The sentence quoted suggests that alternatives to water fluoridation are — "worthy of further investigation". I note increasing criticism of the British Ministry of Health for their insistence on repeating the American study in the three localities now fluoridating on a study basis in the United Kingdom. As everyone knows this means a ten-year delay, which, if the results compare favourably, means a denial of benefits to many thousands of children, compared to the shorter period of time waiting for the report of the Ontario Fluoridation Investigating Committee. It would be impertinent for me to criticize such a delay but it can be said at least, that it is most unfortunate that a measure such as this must be subjected to the importunities of politics at a time where the profession is being subjected to so many pressures.

A letter does not provide sufficient scope to cover all of the available reference material, but I would like to draw attention to a few drawn from a wide range of reputable journals.

1. Dr. E. W. McHenry's submission to the Ontario Fluoridation Investigating Committee¹ makes specific reference to the possible use of tablets for rural residents.

2. Dr. F. A. Arnold's cautious report² on the use of tablets over a period of ten or more years by employees of the U.S. Public Health Service.

3. Reports from Switzerland, and more recently Japan,³ and others.

4. On a broader basis (effectiveness of systemic fluoride supplementation): (a) P. R. N. Sutton's criticism of the whole basis of epidemiological evidence in support of fluoridation very effectively answered by J. M. Dunning in a Journal not widely circulated — *Nutrition Reviews*.⁴ (b) Final acceptance of fluorine as an "essential nutrient" among other elements, in the March 1961 issue of the *Journal of the American Dietetic Association*.⁵

If this be so, what matters it what the vehicle is or how obtained?

Of course there are some risks and there will be misunderstanding and lack of con-

tinuity which would not be the case with communal controls. But this has been true of other supplements and probably always will be so.

I have been encouraged in our department by the attitude that seems to have prevailed from the beginning of my experience. If it is logical, we proceed despite the problems and public indifference. In other words, the truth will out. I do not need to use examples from the experience of this province in the adoption of forward looking measures in the health field.

Having gone about as far as we can go in obtaining the fluoridation of communal supplies of water there seems no obvious reason why we should further deny an intelligent population in the rural areas the benefits of fluoride in an alternative form. And that is what we are doing and intend to continue doing.

I for one can see no reasons, except political ones, why there should be reluctance to go all out in employing fluoride in all possible forms. Refusal to do so implies a caution without justification when compared to the widespread use of unknown drugs so very frequently prescribed on the basis of commercial advertising.

A. E. Chegwin, D.D.S., D.D.P.H.,
Director, Dental Health Division,
Saskatchewan Department of Public Health,
Regina, Saskatchewan.

REFERENCES

1. McHenry, E. W. Report Prepared for the Ontario Fluoridation Investigating Committee. (Mimeographed) November 1959.
2. Arnold, F. A., Jr., McClure, F. J. and White, C. L. Sodium Fluoride Tablets for Children. D. Progress 1:3, October 1960; abstracted, D. Abstracts 6:368, June 1961.
3. Murase, M. Dental Caries Prevention in Japan. J.A.D.A. 63:100, July 1961.
4. Dunning, J. M. Biased Criticism of Fluoridation. Nutrition Reviews 18:161, June 1960.
5. King, C. G. Latest Advances in Nutrition. J. Am. Dietet. A. 223, March 1961.

Two points raised in the letter from Dr. A. E. Chegwin should be discussed further. First, surely only the most uninformed layman or rabid anti-fluoridationist can twist the words of the statement of the Council on Research on self-administration of fluorides (J.C.D.A. 27:167, May 1961) to mean that the Association wishes to deny the benefits of optimal fluoride consumption to *any* Canadians. On the contrary, within its limitations, prescribing fluoride tablets for those individuals who do not have access to communal water supplies is a sound health procedure.

However, on the basis of present evidence, one cannot promise the same benefits from tablets as from water fluoridation. The evidence for tablets, while suggestive, is not sufficient for final conclusions to be drawn. Since it is suggestive, however, the procedure is "worthy of further investigation". Indeed, the records presumably being compiled by the Department of Public Health in Saskatchewan should add much to our understanding of the advantages and disadvantages of fluoride supplementation by tablets.

The second point raised by Dr. Chegwin pertains to the use of the phrase "—must not be considered a substitute for communal water fluoridation —". This phrase was used advisedly in the original statement by the Research Council for this reason: even if it should develop through further investigation that fluoride tablets confer comparable protection against dental caries for those individuals who persist in taking the tablets for the entire required time, still tablet prescription should not take precedence over programs of water fluoridation. As a public health measure, water fluoridation will continue to offer much more since it confers maximum benefit to many more people, at less cost, and with less personal effort.

K. J. Paynter, D.D.S., Ph.D.,
Chairman,
Council on Research,
Canadian Dental Association.

CANADA'S POPULATION

Canada's population reached an estimated 18,041,000 at January 1, 1961, representing a rise of 2.1 per cent from a year earlier and a gain of 12.2 per cent from the 1956 census count of 16,081,000.

Dominion Bureau of Statistics

DENTISTRY IN THE NEWS

Canada and the Provinces

ROYAL COMMISSION HOLDS HEARINGS

The Royal Commission on Health Services held preliminary public hearings in Ottawa, September 27. No briefs were accepted at this first hearing.

Interested persons and groups were invited to present their views as to the areas and problems to be covered and statements of principle which they felt should guide the Commission in proceeding with its inquiry. The Canadian Dental Association was represented at the first hearing.

The Commission is expected to hold the first of regional public hearings this fall in the Atlantic provinces. Dental organizations are invited to submit copies of their briefs to the Canadian Dental Association for review. Dr. W. G. McIntosh heads a small steering committee appointed to review — upon request — such briefs as well as any C.D.A. submissions.

ACTIONS OF THE C.D.A. STEERING COMMITTEE

The special Steering Committee, established by the Board of Governors at the annual meeting in Saskatoon earlier this year, which is responsible for approval of submissions by the Association to the Royal Commission on Health Services, has taken the following actions: (1) submitted a memorandum to the Commission respecting areas of investigation to be covered and suggesting certain principles, and (2) drafted a skeleton outline of the proposed Association brief.

W. G. McIntosh, chairman, Isabel Boyd, director, Bureau of Economic Research, and Don W. Gullett represented the Canadian Dental Association at a preliminary hearing in Ottawa, September 27.

Chairman of the Association's committees and councils and secretaries of the four specialty sections have been requested to submit to the Committee information deemed worthy of consideration for inclusion in the Association's brief to the Commission. The Committee will also advise, on request, respecting dental submissions by other organizations.

APPOINT C.D.A. REPRESENTATIVE TO CANADIAN CONFERENCE ON CHILDREN

D. L. Rife of Toronto has been appointed as representative of the Canadian Dental Association to the Canadian Conference on Children. The nomination was made by the section on Dentistry for Children. Dr. Rife is presently secretary of the section. At the annual meeting in Saskatoon, the Board of Governors assigned responsibility for future liaison between the Association and the Canadian Conference on Children to the section on Dentistry for Children.

REDRAFT FOOD RULES FOR CANADIAN PUBLIC

The Canadian Council on Nutrition has approved a new formulation of *Canada's Food Rules* and has in the process changed the heading to *Canada's Food Guide*.

Canada's Food Rules has provided guidance for the selection of Canadian foods to maintain health for nearly twenty years. A generation of school children has memorized the rules and applied them in classroom projects.

There has been no change in underlying philosophies and the basic grouping remains. More precise definition of requirements for certain nutrients has brought about slight changes in recommendations for some groups of foods. *Canada's Food Guide* is applicable for all age groups, and dietary selection on this basis is conducive to health without any vitamin or mineral supplementation or resort to other panaceas. Moreover, it is a practical guide for even the most limited food budget.

A printed version of *Canada's Food Guide* will be available to the public in the near future.

HYPNOSIS SOCIETY FORMED

The Canadian Society of Clinical Hypnosis has been incorporated under the Societies Act of British Columbia.

The society was formed in order to keep the approach to medical and dental hypnosis on the highest ethical and professional plane. Membership is restricted to qualified medical and dental practitioners who are either interested in or actually using hypnosis in their practices.

A two-day course in medical hypnosis was given to members of the society in February of this year, and was attended by nine dentists and two medical practitioners.

The executive is composed of D. A. Denny, M.D., president; R. I. Yorsh, D.D.S., vice-president; J. B. Fletcher, M.D., secretary; J. S. Craib, D.D.S., treasurer; and W. L. Esdale, M.D., regional executive member.

ALBERTA

Denturist Examiners Appointed. — Alberta labour minister Raymond Reiersen on July 1 announced the appointment of five members to a board of examiners for certification of dental mechanics in the province.

They are: J. P. White, chairman; Dr. S. M. Little, a dentist; Dr. B. M. MacKenzie, a dentist on the staff of the University of Alberta; John Katz and E. J. Wallington, both dental mechanics. All are from Edmonton.

Under legislation passed at the last session of the Alberta legislature, the board is to test applicants who wish to qualify as dental mechanics under Bill 59 which permits dental mechanics to deal directly with the public respecting the fabrication and fitting of full dentures.

Practising dental mechanics are to be tested first and then standards are to be set for future applicants.

Alberta Dental Association. — A special meeting of the Board was held on June 17 to deal with business accruing since the April meeting. A committee was appointed to report to the Canadian Dental Association on the training and employment of dental auxiliaries.

BRITISH COLUMBIA

College of Dental Surgeons of British Columbia. — The newly-elected council which took office on July 17 has made these appointments: W. P. Munsie, president; Max Nacht, registrar; G. I. Creasy treasurer.

Ten candidates passed the written and clinical examinations for dental practice in British Columbia. One dental hygienist was also successful.

New British Columbia Dental Association Executive. — As a result of elections at the annual meeting the members of the executive of the B.C. Dental Association are: J. C. Lewis, president; H. R. Henderson, past-president; M. J. T. Dohan, president-elect; O. F. Wright, treasurer; D. G. Marshall, secretary. F. A. Fergie, G. A. Freeze, J. E. G. Harrison, F. J. Netherton, H. G. Pettapiece, S. S. Banford, W. W. McLuhan, D. E. Walter, D. J. Yeo and G. R. Young were named directors.

Dean Walter Gage of the University of British Columbia has released the names of winners of scholarships and bursaries which have been provided from the association's public relations funds:

1. B.C.D.A. scholarship of \$250 — David Lloyd George Bowler of Richmond who is entering the first dental year at the University of Manitoba.

2. B.C.D.A. scholarship of \$250 — Sam Hoshizaki of Kelowna who is entering the first dental year at the University of Alberta.

3. B.C.D.A. bursary of \$250 — Michael Harwood Lewis of Vancouver who is entering the University of Alberta.

4. B.C.D.A. bursary of \$250 — Gordon William Thompson of Hope, B.C., who is entering the first dental year at the University of Alberta.

The two scholarship winners had averages of over 80 per cent, and the bursary winners second class standing.

Prince George and District Dental Society. — The society met on June 19 for a two-day clinic on oral diagnosis and radiology given by Lloyd Jacobson of the University of Washington. The clinic began with a question and answer period followed by illustrated lectures. The last afternoon was devoted to a well-conducted demonstration of large amalgam restorations.

NEW BRUNSWICK

Dr. Godsoe, Oldest Living Dentist in Canada. — Frank A. Godsoe, who practised in Saint John, New Brunswick, for more than fifty years, celebrated his ninety-ninth birthday on January 15 of this year.

Dr. Godsoe came to Saint John a year following his graduation from Boston Dental College in 1883. Active in organized dentistry in New Brunswick, he contributed to the enactment of the province's first dental act in 1890. Dr. Godsoe attended the organizational meeting held in September 1902 at Montreal which resulted in the formation of



S. A. Godsoe

the Canadian Dental Association. He is the only living survivor of some two hundred dentists who attended the meeting.

For forty years he was registrar of the New Brunswick Dental Society and his kindly advice and encouragement were given to many young practitioners of that province. In 1934, on completion of fifty years of practice in the province, Dr. Godsoe was made an honorary life member of the New Brunswick Dental Society. At St. Andrews, New Brunswick, in 1954, Dr. Godsoe received an honorary membership in the Canadian Dental Association.

As Captain Godsoe, Canadian Army Dental Corps, he was in charge of dental services in the Saint John area during the first world war and for several years thereafter he attended war veterans under the then Department of Human Health.

His contributions to the profession have been recognized and honoured through the Dr. A. F. Godsoe Prize at the Faculty of Dentistry, Dalhousie University. The prize is donated by the New Brunswick Dental Society.

In fraternal circles, Dr. Godsoe was active in the Masonic Order and the Knights of Pythias. His well-earned years of retirement are now being spent in the fine old home of his niece at Hampton, New Brunswick. When recently visited by Drs. J. F. Edgecombe and S. K. Whetmore, Dr. Godsoe was active, in good health and full of reminiscences of the past. He was extremely pleased to receive a congratulatory telegram from the Canadian Dental Association which had been dispatched from the annual meeting at Saskatoon, June 1.

Dr. Frank A. Godsoe, dental practitioner, soldier, and gentleman is nearing his one-hundredth birthday on January 15, 1962.

NEWFOUNDLAND

New Executive Announced. — The following officers were elected during the recent annual

convention of the Newfoundland Dental Association held at Grand Falls, June 15: G. P. Kavanagh of St. John's, president; M. J. Maguire, of Gander, first vice-president; Kira Candow of Corner Brook, second vice-president; and B. L. Bowden, of St. John's, secretary.

In attendance at the meeting were about twenty delegates from various points in the province. The Honourable James McGrath, provincial minister of health and Dr. Leonard Miller, deputy minister of health, were also present as guests.

H. J. Hann of St. John's presided at all sessions where many scientific papers were presented by the various attending dentists.

R. W. Ball of Grand Falls, M. J. Maguire of Gander and D. A. Poole of Corner Brook were appointed as a special committee to investigate the possibility of water fluoridation in the province. It was recommended that all communities with a population of 2,000 or over should have their drinking water supplies fluoridated.

PRINCE EDWARD ISLAND

Maritime Orthodontic Study Club Meeting.—The fourth meeting of the Maritime Orthodontic Study Club was held in association with the Atlantic Provinces Dental Convention at Charlottetown, July 3-4. Four members and two guests attended at various sessions of the meeting. Present at the meeting were: M. J. Crompton of Moncton, New Brunswick; D. A. Eisner of Halifax, Nova Scotia; Heath McIntyre of Charlottetown, Prince Edward Island; D. B. Ross of Toronto, Ontario; H. B. Fleming of Arlington, Virginia, and formerly of Moncton, New Brunswick; E. J. Whyte of Sydney, Nova Scotia; T. E. Spracklin of Halifax, Nova Scotia; and Kira Abrascova of Corner Brook, Newfoundland.

Dr. Eisner introduced Dr. Ross, the guest essayist who delivered papers on "The Aetiology and Epidemiology of Oro-Facial Clefts", "The Team Approach to Cleft Palate Rehabilitation" and "Orthodontic Diagnosis and Treatment Planning for the Cleft Palate Child".

Dr. M. J. Crompton was welcomed as a new member of the Club. He has recently established an orthodontic practice in Moncton.

Mr. R. Boocock, representative of the Unitek Corporation, gave an excellent demonstration of his company's latest orthodontic products.

Next year's meeting will be held at the Digby Pines Hotel, Digby, Nova Scotia, in conjunction with the Atlantic Provinces Dental Convention.

Newspaper Comment on Fluoridation.—From an editorial in the Charlottetown, P.E.I. *Guardian* on the subject of dentists' support for fluoridation, we quote the following passage:

Public opinion will change, eventually, but it is tragic to think of the needless expense, suffering and inconvenience that will be incurred in the meantime.

Our dentists have no axe to grind in urging this essential health measure; but they do have a responsibility, owing to their special training and experience. That is why they are in this campaign, and why we commend them for it, and have endeavoured wholeheartedly to support them as a newspaper. May they not become discouraged by indifference, criticism or abuse, but carry on the good fight until it is won.

QUEBEC

Announce Program of Montreal Fall Clinic.—The 36th Annual Fall Clinic of the Montreal Dental Club will be held at the Queen Elizabeth Hotel, Montreal, October 23-25.

The guest clinicians will include Drs. A. Berliner, A. E. Kahn and N. A. Shore of New York City; H. Healy, Indianapolis; C. H. Moses, Toronto; and Captain E. W. Spahn, U.S. Navy, Bethesda, Maryland. Prominent Montreal dentists featured on the program will include Drs. E. R. Ambrose, D. Kepron and Z. B. Nyeste.

Dr. N. A. Shore will discuss "Occlusal Equilibration and Temporomandibular Joint Dysfunction Diagnosis and Treatment". This essay will cover the principles of the physiology and mechanics of the masticatory organ which must be applied in daily practice; the cause and effect of pathological occlusion; and a demonstration whereby the dentist may evaluate and plan the equilibration of the occlusion of the patient. Paractical methods for the examination, radiography, diagnosis and treatment of temporomandibular joint dysfunction will also be presented.

Dr. A. Berliner will discuss "Biologic Reconstruction: The Primary Objective for the General Practitioner". This will embrace a series of practical techniques for eliminating and controlling diastemata in the anterior segments of periodontally involved, migrated adult teeth.

Dr. A. E. Kahn's subject will be "Principles of Gnathology in the Establishment of Biological Occlusion". Dr. C. H. Moses will discuss "Complete Denture Procedure", covering aspects of patient psychology, the use of rubber base for impressions, and obtaining correct vertical dimension and centric occlusion using the Gothic Arch tracing. The use of the Coble Balancer for correction of occlusion will also be described.

Dr. H. Healy will discuss "The Development and Value of Present-Day Endodontics". This presentation will include discussion of the indications and contra-indications to endodontic treatment, culture testing and incubator construction, bleaching of teeth and restoration of the treated tooth.

Captain E. W. Spahn, U.S. Navy, will give a presentation on "Rehabilitation in the Aged Patient". Dr. Z. B. Nyeste will discuss "Modern Concepts of Dental Practice" as related to office equipment.

Dr. E. R. Ambrose, chairman, Department of Operative Dentistry, McGill University will present "Essentials of Conservative Amalgam Preparations and their Restoration with the Presto-Alloy Technique".

The ladies' program, including a fashion show, luncheon and a supper dance, has been planned under the direction of Mrs. W. Johnson.

International Items

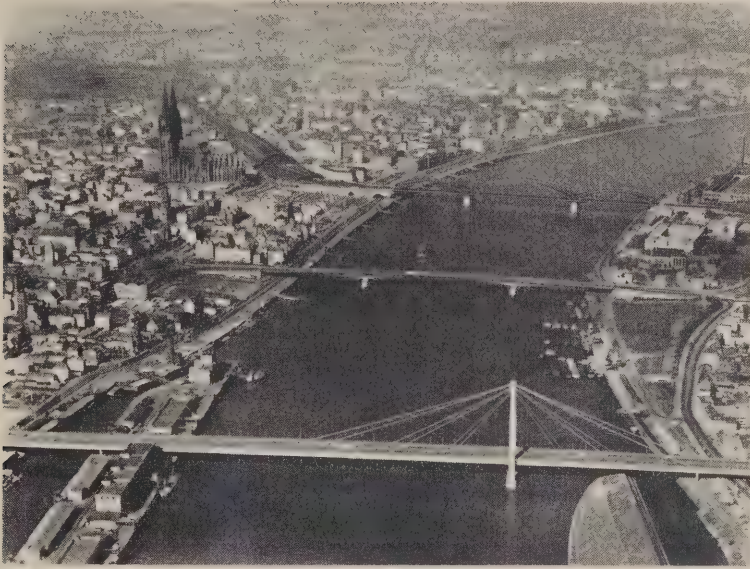
AUSTRIA

Austrian Dentists to Hold Centennial Congress.—The Society of Austrian Dentists will hold a Jubilee Congress November 14-18 in Vienna to celebrate the centennial of its founding. Members of the Canadian Dental Association are cordially invited to attend the congress. Further details and information can be obtained from the office of the Jubilee Congress of the Society of Austrian Dentists, Langegasse 9, Vienna 8, Austria.

FEDERATION DENTAIRE INTERNATIONALE

Highlights From the 49th Annual Session.—Dentists of Finland brought great credit to themselves for the excellent arrangements made for the successful Fédération Dentaire Internationale meeting at Helsinki, July 9-15. Official Canadian representatives to the meeting were Don W. Gullett, C.D.A. secretary, and C. H. M. Williams of Toronto.

Actions taken at the meeting include adoption of a statement clarifying nomenclature applied to auxiliary personnel in various



View of the Rhine bridges and city of Cologne.

countries; special session discussions of dental auxiliaries and dental manpower; adoption of a statement of principles governing the development of regional organizations as a part of the F.D.I. structure; and nomination of Dr. Trendley Dean of the United States as recipient of the Miller Prize, the highest award given by the *Fédération Dentaire Internationale*.

F.D.I. officers for the coming year will be J. Délibéros, France, president; O. H. Moen, United States, immediate past-president; L. M. Ennis, United States, vice-president; K. Gard, Norway, vice-president; E. Müller, West Germany, vice-president; P. O. Pedersen, Denmark, vice-president; S. Ross, United Kingdom, vice-president; G. H. Leatherman, United Kingdom, secretary-general; J. Stork, Netherlands, treasurer; D. W. Gullett, Canada, member of council; and H. H. Stones, editor.

A total of 1,002 dentists representing twenty-eight countries attended the business and scientific sessions. In addition, forty dental officers from sixteen countries attended the F.D.I. Military Conference.

Preliminary Scientific Program for the XIII International Dental Congress, 1962. — The organizing committee has issued the following additional details respecting the scientific

essays which are to be presented at next year's Cologne congress:

July 9, 1962. — Recent Findings of Fundamental Research Regarding the Origin of Dental Caries: Electron-Microscopic Research; Bacteriological Research; and Biochemical research. P. O. Pedersen, Denmark; S. Matsumiya, Japan; Anna Placková, Czechoslovakia; Paul Keyes, United States; B. Krasse, Sweden; Y. Ericsson, Sweden; and F. Brudevold, United States.

July 10, 1962.—Current Problems of Conservative Dentistry: The Treatment of the Tooth with a Sound Pulp; Pulp and Root Treatment; and Tooth Preservation and Disease of the Supporting Structures. E. Harndt, Germany; Arje Scheinin, Finland; H. R. Mühlemann, Switzerland; B. N. Ostby, Norway; J. B. Freedland, United States; A.-J. Held, Switzerland; and B. Cohen, United Kingdom.

July 11, 1962.—Prosthetic Treatment in Cases of Incomplete Dentition: The Treatment of Incomplete Dentition with Removable Prosthesis; and the Treatment of Incomplete Dentition with Fixed Prosthesis. E. Reichenbach, Germany; K. K. Koivumaa, Finland; Krogh-Poulsen, Denmark; R. Le-Huche, France; F. J. Tempel, Netherlands; and Z. Kasloff, Canada.

July 12, 1962.—Dental Oral Surgery: Recent Advances in Dental Surgery: Surgical Preparation of the Jaw for Prosthetic Treat-

ment; Haemorrhage in the Oral Cavity; and Dangerous Complications in Oral Surgery. K. Schuchardt, Germany; T. G. Ward, United Kingdom; J. Hansen, Denmark; and T. J. Mavrogordato, Greece.

July 13, 1962.—Orthodontics: The Use of Functional Biological Growth Potential in Orthodontic Treatment; Cephalometric Growth Studies; Orthodontic Treatment for Adults; Preventive Treatment of Diseases of the Periodontium through Orthodontic Measures; and Preventive Treatment of Arthropathy through Orthodontic Measures. O. Hoffer, Italy; J. H. Scott, United Kingdom; M. Schwarz, Austria; S. Fastlicht, Mexico; and P. Planas, Spain.

The following round table discussions have also been scheduled in the afternoons:

July 10, 1962.—Should Carious Dentine be Left at the Base of the Cavity?

July 11, 1962.—Experiences with Dentures Incorporating Stress Breakers.

July 12, 1962.—Dry Socket.

July 13, 1962.—The Provision of Early Orthodontic Treatment in the Social Care of Children.

Visits will be organized in connection with the congress to dental health institutions of all kinds, including dental hospitals, dental manufacturing and pharmaceutical com-

panies, and dental clinics. Visits will be paid, for example, to the university dental hospital and schools in Bonn, Munich, Freiburg, Hamburg, Düsseldorf, Münster, and Berlin. Industrial plants to be visited include the *Farbwerke Hoechst*, the firm of *Bayer* in Leverkusen and dental supply firms like *Emda*, *Kaltenbach and Voigt*, and *Mueller-Hamburg* (dental radiographic equipment).

NEW ZEALAND

New Government Dental Director Appointed.—Dr. G. H. Leslie has been appointed director of the Division of Dental Health, New Zealand Department of Health, succeeding Dr. J. Bruce Bibby who retired on March 21. Dr. Leslie was formerly deputy director of the dental division. The division administers the school dental service and the adolescent dental service in New Zealand.

UNITED KINGDOM

International Conference on Oral Surgery.—The "First International Conference on Oral Surgery", sponsored by the American Society of Oral Surgeons in conjunction with the Royal College of Surgeons of England will



Approach to the Severins bridge, Cologne.

be held at the Royal College in London, July 1-4, 1962. All interested dentists and physicians are invited to attend, and a bulletin describing the conference is available on request to the American Society of Oral Surgeons, 840 North Lake Shore Drive, Chicago 11, Ill. The program will include symposia on the temporomandibular joint and on maxillofacial injuries in addition to a wide variety of scientific papers and discussion. Approximately one half of these papers will be presented by essayists from North, South and Central America and the other half from the United Kingdom, Europe, Africa and Asia. Visitors attending the conference will also have an opportunity to observe surgical procedures in the hospitals of London as a part of the conference program.

Extensive social and ladies' programs have been arranged by the joint British-United States Committee. Features of the social program will be a banquet at London's famed and historic Guildhall and a reception by Her Majesty's Government.

For additional details and bulletin, dentists and physicians in the United Kingdom and Europe should write: Dr. Terence Ward, c/o Royal College of Surgeons of England, Lincoln's Inn Fields, London, W.C.2. Dentists and physicians in Canada and other countries should write: Mr. D. C. Trexler, Executive Secretary, American Society of Oral Surgeons, 840 N. Lake Shore Drive, Chicago, Illinois, U.S.A.

Chief Dental Officer to the Ministry of Health Appointed.—Surgeon Rear-Admiral (D) W. Holgate, O.B.E., Q.H.D.S., has been appointed chief dental officer to the Ministry of Health in succession to Dr. W. G. Senior, C.B.E. who is retiring. Admiral Holgate will take up his duties on December 1.

UNITED STATES

Expansion of Dental Auxiliaries' Roles Recommended.—Experimental studies on possible expansion of the roles of dental hygienists and assistants are essential to "enlarging the dental profession's capacity for service to the people of the United States." This was one of a series of conclusions contained in a summary report of a conference on "Functions of Auxiliary Personnel" held June 28-30 in Chicago. The report will be considered further by the American Dental Association's Council on Dental Education at the annual session in Philadelphia, October 16-19. The conference, which was supported by a grant from the W. K. Kellogg Founda-

tion, was comprised of representatives from many segments of the profession and included educators, examiners, practitioners, public health and federal service dentists. Dental assistants and dental hygienists also attended the conference as observers.

The participants agreed that there were certain operations, decisions and judgements for which the dentist must retain sole responsibility. The following duties were considered professional in nature: (1) Diagnosis, treatment prescription and treatment programming; (2) Cutting and severance of hard and soft tissues; (3) Prescription of drugs and other medicaments; (4) Those prosthetic, orthodontic and other procedures which require the knowledge and skill of a fully qualified dentist; (5) Direction and supervision of those services rendered by auxiliary personnel under the jurisdiction of the dentist.

The conferees suggested the following principles to guide the conduct of experimentation in dental schools and training agencies of the federal government: (1) Experimental projects should not be designed to produce any types of auxiliary which might be considered "second level" dentists; (2) Experimental projects should be regarded as research, separate from regular teaching programs; (3) The project should be realistic in terms of potential application of findings to private practice; (4) Major responsibility for design and substance of the projects should rest with the individual schools or institutions, with the Council on Dental Education giving guidance.

Major areas of experimentation were also outlined. They include: (1) Systematic evaluation of the potential of dental hygienists and assistants to perform routine procedures not requiring the dentist's knowledge or skill; (2) Length of time required to teach auxiliaries new duties; (3) Determination of the best teaching techniques; (4) Cost of new training programs; (5) Evaluation of the effect of new auxiliary duties on the dentist's productivity; (6) Determination of the necessary control to prevent practices which are contrary to the public interest.

A.D.A. Staff Dental Insurance Plan.—Employees of the American Dental Association will be covered by dental insurance, starting January 1, 1962. The insurance program is similar to the pioneering plan established in 1959 for the employees of the Dentists' Supply Company, York, Pennsylvania. In a two-year report issued recently by the company the plan was termed "a complete success". The cost of dental services performed under

the plan, including the portion paid by the employee was \$138,000 over the two years.

The A.D.A. insurance program will be operated by the Continental Casualty Company, as is the Dentists' Supply plan and a third program operated for employees of the Kerr Manufacturing Company. All types of dental services are covered with the exception of purely cosmetic dentistry or services covered by other health insurance. Any licensed dentist may be chosen, and he may charge his customary fee; there is no fee schedule or table of allowances. All full-time employees and their dependents are covered, 375 persons in all.

The American Dental Association will pay the entire annual premium, amounting to approximately \$100 per employee, in order to insure full participation. The employee participates in the cost of dental care.

In the first policy year there is a \$25 deductible factor, the employee paying the first \$25 of any dental bill, and the insurance company paying 80 per cent of everything over that amount up to a maximum of \$200.

When an employee or dependent receives a routine oral examination — no more often than twice each year — he pays 20 per cent of the dentist's fee and the insurance company pays the remaining 80 per cent. The deductible factor does not apply to these semi-annual checkups.

In the years after the first year, the deductible factor drops to \$10; the 80%-20% formula remains the same.

Maximum payments per individual are \$200 the first year, \$300 the second, and \$400 thereafter. Maximum payments per family are \$500 the first year, \$750 the second, and \$1,000 thereafter.

In the first year, the total deductible any one family will have to pay is limited to \$75; thereafter, the limit is \$30.

The only exceptions to the 80%-20% formula are orthodontics and full dentures. In each of these areas, the insurance company pays 60 per cent, the employee 40 per cent. There is also a maximum limit of \$400 to be paid by the company on any one orthodontic case, regardless of the number of years involved.

Before the dentist institutes treatment, he will be asked to submit a treatment plan to the company to serve notice that a claim is to be submitted and to aid in development of statistical data. No judgement will be exercised by the company on the plan.

Market More Fluoride Dentifrices. — Two manufacturers have announced plans to market fluoride dentifrices in the United States. Action has not been taken to seek recognition by the American Dental Association.

Ipana, a product of Bristol-Myers, will contain sodium fluoride. *Cue*, a new Colgate-Palmolive product, is a stannous fluoride dentifrice. Both products are to be test marketed in the United States.

The Council on Dental Therapeutics of the American Dental Association has re-emphasized that its recognition is based on clinical studies using the precise formulation marketed to the public and not simply on a single ingredient. The Council has indicated that it will be happy to review clinical studies on new dentifrices when available.

Both the Colgate and Bristol-Myers moves according to the *Wall Street Journal*, are aimed at regaining sales lost to *Crest* as the result of Procter and Gamble's exhaustive advertising of the American Dental Association's recognition. There is no precise indication of the effect of *Crest* sales on other dentifrice sales.

American Dental Association Rejects Criticism of "Crest" Dentifrice Recognition. — At a press conference held June 13 in Boston a dentist, Dr. L. F. Miner criticized the American Dental Association's recognition of *Crest* dentifrice which contains stannous fluoride. This recognition (August 1, 1960) by the A.D.A. Council on Dental Therapeutics described the dentifrice as "An effective decay-preventive dentifrice that may be of significant value when used in a conscientiously applied program of oral hygiene and regular professional care." In the opinion of the American Dental Association, Dr. Miner's statements do not change in any respect the scientific evidence on which the Council based its judgement.

The association noted that the day before this press conference weekly newspapers throughout the United States were receiving an editorial distributed by a service which specializes in preparing "ready-made" editorials for commercial firms. The editorial was paid for by a dentifrice manufacturer which is in competition with Procter and Gamble, maker of the stannous fluoride dentifrice. The tone, contents and even the wording of the editorial was strikingly similar to statements made at the press conference and the statements contained in a 64-page booklet distributed at that conference.

One of the elements involved in A.D.A. recognition of *Crest* was "the manufacturer's willingness to limit advertising claims to those supported by adequate research." The manufacturer has lived up to this agreement. The association had for many years sought to persuade dentifrice manufacturers to include positive and accurate dental health information in their advertising. Procter and

Gamble had done this as had a few others, such as the makers of *Kolynos* dentifrice.

Fluoridation Extends to 45 Million.—As of January 1, 1961, 1,968 communities in the United States were fluoridating water supplies serving 38,477,000 people. In addition, there are more than 7 million people using water with a natural fluoride content at the approximate recommended level. As of the same date, 187 communities have discontinued the measure, with 13 then re-instituting it.

U.S.P.H.S. Dental Director Leaves for University Post.—Dr. J. W. Knutson, chief dental officer of the U. S. Public Health Service, has been appointed to the faculty of the new University of California at Los Angeles Dental School. He holds the position of professor of Preventive Dentistry and also the joint appointment as professor of Public Health (dentistry) in the U.C.L.A. School of Public Health. He assumed his new position on October 1.

Dr. Knutson has served as Assistant Surgeon General and chief dental officer of the U. S. Public Health Service since 1952. Prior to that he was chief of the Division of Dental Public Health of the Public Health Service. Dr. Knutson received his dental degree from the University of Minnesota and a Dr.P.H. in public health from Johns Hopkins University, Baltimore.

Forthcoming Dental Meetings.—The following meetings of dental societies have been scheduled for the fall and winter months of 1961-62:

The Eighth Annual Meeting of the American Society of Anesthesiology will be held at the Statler-Hilton Hotel, New York City, October 13-15. Drs. W. Vize, J. Feinman, W. Condon, S. Nash, S. Spiro, L. Monheim, J. Artusio, J. Frumin, H. Bartelstone, P. Safar, C. Beck, Elaine Stuebner and R. Friedrich will be the clinicians and essayists. Featured subjects on the program include "Dental-Legal Aspects of Anaesthesiology", "The Status of Monitoring Equipment in the Dental Office", "Chemnesia", "Resuscitation", "Premedicating the Ambulatory Child Patient", and "The Future Concept of Pain Control and Patient Management in Dental Practice."

The New York State Academy of Practice Administration will hold a meeting at the Hotel Sheraton, Rochester, N.Y., October

28-29. The speakers include Drs. A. G. Williams of Irvington, New Jersey, and J. Friedmann of Philadelphia, Pennsylvania.

The First District Dental Society in New York City has scheduled an extensive postgraduate program on a wide range of subjects between November 3 and December 16, 1961. All courses are held from 10 A.M. to 4:30 P.M. at the Statler-Hilton Hotel in New York City. Further information may be obtained from the Postgraduate Education Program, First District Dental Society, Statler-Hilton Hotel, New York 1, N.Y., U.S.A.

Royal Canadian Dental Corps

MAJOR BRICK COMPETES IN DCRA

Major J. C. Brick, Directorate of Dental Services, Ottawa, was one of the competitors at the Dominion Rifle Association's Annual Meet at Connaught Ranges near Ottawa. An outstanding marksman, Major Brick placed well up in the final standings.

RCDC OFFICER CADET WINS INFANTRY TROPHY

Officer Cadet M. G. McCrae of Port Coquitlam, B.C., a second year dental student at the University of Alberta, was the winner of the Canadian Infantry Association Trophy which is awarded annually to the best cadet in the first practical phase of military training in the Regular Officer Training Plan.

POSTINGS TO AND FROM OVERSEAS

Lt.-Col. L. G. Craigie of Kamsack, Saskatchewan, has been appointed to Command No. 35 Field Dental Unit with headquarters at Metz, France. This unit provides dental services for the R.C.A.F. Air Division in Europe. Prior to going overseas Lt.-Col. Craigie spent five years as an instructor in operative dentistry at the R.C.D.C. School.

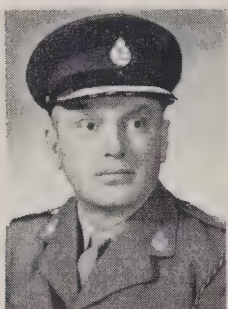
Lt.-Col. G. R. Covey who until recently was Commanding Officer of No. 35 Field



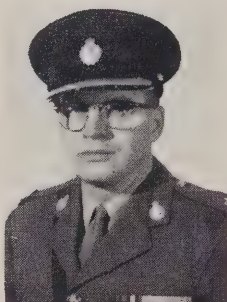
Colonel C. E. Purdy



Colonel A. T. Roger



Lt.-Col. D. H. Hillier



Lt.-Col. G. MacDougall



Major A. L. Kelland

Military dental officers who were recently promoted include: Colonel C. E. Purdy, Commandant, The Royal Canadian Dental Corps School, Camp Borden; Colonel A. T. Roger, Command Dental Officer, Eastern Command and Commanding Officer, No. 12 Dental Company, Halifax; Lt.-Col. D. H. Hillier, Dental Public Health Officer at the Directorate of Dental Services; Lt.-Col. G. MacDougall, an instructor in Prosthodontics at the Royal Canadian Dental Corps School; and Major A. L. Kelland who is serving with No. 35 Field Dental Unit in France.

Dental Unit, France, has taken up his new appointment as a Deputy Director of Dental Services on the staff of the Directorate of Dental Services in Ottawa.

OFFICERS RETURN FROM OVERSEAS

Major G. E. Windsor of Kamsack, Sask., has completed his three-year tour of duty with No. 35 Field Dental Unit and returned to Canada for employment as Senior Dental Officer in London, Ont.

Captain F. G. C. Arpin of Tracy, P.Q., until recently employed at Fort Churchill has been posted to the Middle East for a one-year tour with the United Nations Emergency Force. Captain Arpin is a 1960 graduate of the Université de Montréal.

Captain R. Lanthier of Sudbury has completed his tour in the Middle East and has been posted to Central Command for employment at No. 1 Clinic, Ottawa.

Captain G. I. J. Bisaillon of Capreol and Sudbury has been posted to Camp Shilo, Man. following three years' service with No. 4 Field Dental Company in Germany.

POSTINGS IN CANADA

Captain J. F. Bégin of Montreal, P.Que. has been posted to R.C.A.F. Station, Goose Bay, Labrador, from Quebec City.

Captain J. F. Eadon of Shaftown, England, has been moved to R.C.A.F. Station Penhold, Alberta, from Fort Churchill.

Major E. D. Fraser until recently Dental Officer in Charge at R.C.A.F. Station St. Hubert near Montreal has been posted to H.M.C.S. Stadacona, Halifax.

Captain L. C. Gray of Halifax, Nova Scotia, has been posted to Vancouver from Calgary.

Captain M. Petryk of Atmore, Alberta, has been posted to Calgary from R.C.A.F. Station Cold Lake, Alberta.

Captain J. C. R. R. Roy of Quebec City, P.Que. has been moved to R.C.A.F. Station Parent, P.Que. from Montreal.

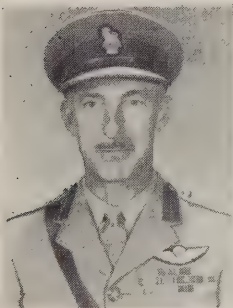
RELEASES

The following officers have taken their releases from the Corps on completion of their tours of duty: Captain A. Chaikin, Captain J. G. G. Hébert, and Captain E. S. Morrison.

Research

CANADIAN CONFERENCE ON DENTAL RESEARCH, 1961

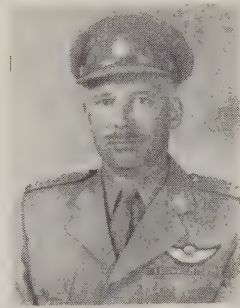
The Canadian Dental Research Foundation has completed arrangements for the first Canadian Conference on Dental Research. The conference has been made possible through a grant from the Proctor and Gamble Company of Canada, and will be held in Toronto, Ontario, on October 30 and 31, 1961. This will be the first time a meeting of dental research workers from across Canada has been arranged, and it will afford a valuable opportunity for the participants to discuss their present work, their mutual problems, and to plan for the future. Research representatives from each of the dental schools, from the Department of National Health and Welfare and from the Royal Canadian Dental Corps will present a series of current research reports, and will be given an opportunity to discuss financial and other matters pertaining to the growth of dental research in Canada.



Colonel B. P. Kearney



Lt.-Col. J. G. Butler



Lt.-Col. R. B. Jackson

Recently appointed Commanding Dental Officers include: Colonel B. P. Kearney of Toronto, Commanding Officer of No. 11 Dental Company and Command Dental Officer, Western Command, Edmonton; Lt.-Col. J. G. Butler of Sidney, British Columbia, Commanding Officer of No. 15 Dental Company and Command Dental Officer, Quebec Command, Montreal; and Lt.-Col. R. B. Jackson of Winnipeg and Vancouver, Commanding Officer of No. 14 Dental Company, Winnipeg.

Public Health

TWO CANADIANS FEATURED AT AMERICAN PUBLIC HEALTH ASSOCIATION MEETING

Two Canadian public health dentists will deliver papers at the annual meeting of the American Public Health Association in Detroit, November 13-17.

M. E. Jarrett, director of dental health, Wellington-Halton-Wentworth County Health Units, Ontario, will discuss "Public Health Application of Caries Activity Tests: A Modified Snyder Test". H. S. Grey, director, Division of Dental Services, Toronto Department of Public Health will participate in a program entitled "Programs for Preschool-age Children". The subject of Dr. Grey's paper will be "The Riverdale Preschool Dental Project".

PERSONNEL CHANGES IN ALBERTA AND BRITISH COLUMBIA

T. J. Gavriloff of Toronto has been appointed to succeed W. A. Zacherl as Dental Officer of the Jasper Place Health Unit. Dr. Gavriloff

is a graduate of McGill University and obtained his diploma in Dental Public Health from the University of Toronto. He was formerly dental officer of the East York-Leaside Health Unit in Metropolitan Toronto.

Regional dental consultants A. S. Gray and D. C. T. Bullen recently completed the diploma course in Dental Public Health at the University of Toronto. Dr. Gray has returned to his northern health units post at Prince George. Dr. Bullen returned to his Kootenays appointment at Trail for the summer months pending his permanent appointment as Regional Dental Consultant for Vancouver Island at Nanaimo.

WINDSOR FLUORIDE PETITION INSUFFICIENTLY SIGNED

The city clerk of Windsor, Ontario, has reported that a petition requesting a plebiscite on fluoridation was insufficiently signed. The clerk said the petition did not contain signatures of the required minimum of 10 per cent of electors.

The petition contained names of 138 aliens, 437 out-of-town signatures, and 1,474 who are not on the voters' list. Although they have not been deleted, another 354 signatures may have been signed by persons other than the elector, he said.

According to recent Ontario legislation, municipal councils may institute fluoridation by by-law. Certified petitions signed by 10 per cent of the electors can force a plebiscite on the issue.

BOOK REVIEWS

World Directory of Dental Schools

Published by: World Health Organization, Geneva, 1961.

Pages: 228.

Price: \$5.00

This first *World Directory of Dental Schools* compiled by the office of the Chief Dental Health Officer of the World Health Organization will prove to be a valuable reference manual for teachers, administra-

tors and officials of dental schools and licensing boards in Canada.

There is a comprehensive listing of countries in alphabetical order showing the population, the number of registered dentists, the dentist-population ratio, the number of dental schools and the number of dentists graduating each year. This is followed by a description of the courses of training offered, the administration of the dental schools, admission requirements, the dental curriculum,

conditions of licensure and a table showing the name and address, the year of foundation, the teaching staff, the enrolment, the annual admissions, the annual number of graduates and the annual tuition fees of each dental school. Two appendices show the state requirements for dental practice and the basic degrees and diplomas awarded in various countries.

The material in this Directory has come from a variety of sources, mainly the countries themselves and their dental schools. Although this presents some difficulty in achieving uniformity of texture and terminology, the Directory nevertheless provides a useful basis for comparison of the cardinal features of dental education existing in different countries at the present time.

F. H. Compton

A Manual of Practical Orthodontics

Prepared by: W. J. Tulley and A. C. Campbell.

Published by: The Macmillan Co. of Canada Ltd. for Edward Arnold, London, 1960.

Pages: 220. Illustrated. Price: \$7.15

This manual is divided into three main sections. Section 1 covers growth of the jaws and dentition and aetiology of malocclusion. Section 2 outlines the general principles of treatment and section 3 the practical aspects of treatment. For the sake of brevity, only the major chapters will be discussed.

Chapter 1 summarizes a fundamental review of growth of the jaws and dentition.

Chapter 3 on the aetiology of malocclusion is well organized and clearly presented. The general practitioner will find this chapter very informative and helpful in making a diagnosis.

The authors discuss interceptive measures and treatment of local factors in chapter 4. This chapter was very disappointing. Not only are contradictory statements made but the authors seem to be very doubtful whether space maintainers should be placed following premature loss of deciduous molars.

Chapter 5 deals with the role of extractions in orthodontic treatment. Several examples of specific crowding problems are shown and the treatment is discussed. The following chapter summarizes the general principles of removable appliance therapy.

Chapters 8, 9, 10 and 11 are devoted to the practical aspects of treatment. Treatment of all types of cases, except the most severe, is carried out by removable appliances.

An appendix includes several topics such as the unerupted maxillary cuspid, impacted teeth, submerged deciduous molars, fraenectomy, etc. which were omitted from the main chapters.

This manual was designed to meet the requirements of the undergraduate. The illustrations are excellent and clearly labelled. Considering the amount of material presented, however, the bibliographies seem inadequate.

The main criticism of this book is in the words of the authors "oversimplification and dogmatic statements".

R. D. Haryett

The Extraction of Teeth

Prepared by: Geoffrey L. Howe.

Published by: The Macmillan Co. of Canada, for John Wright & Sons Ltd., Bristol, 1961.

Pages: 70. Illustrated. Price: \$3.00

This small book has been written for students with the objective of providing the basic principles of tooth removal with brevity and clarity and the author's efforts, in this respect, have been successful. Operative techniques and the choice of instruments vary widely and it would be unreasonable to expect absolute standardization. However, nothing but Hawksbill forceps have been illustrated for removal of the lower teeth which will not receive universal acceptance on this continent.

Exception will also be taken to the limitations that have been placed upon the indications for a preoperative radiograph. On this continent, a preoperative radiograph is a basic diagnostic principle and not something to be resorted to only when difficulty or accident occurs during an extraction. If a tooth is so firmly set that it is necessary for the operator to stop and rest and "review the situation" some more efficient approach should have been made to the extraction of the tooth in the first place. Many will question the statement that it is better to leave a small fragment of a deciduous tooth", although the need for care in avoiding damage to the permanent successor is well taken.

The caution to use sutures only "if there is positive indication" is somewhat ambiguous. The chisel is recommended for the excision of buccal bone in the maxilla, but no mention is made regarding the use of hand gouges, which have proved very effective in this area.

The section on anaesthesia doubtlessly refers only to nitrous oxide and the suggestion

that anaesthesia should not be maintained for more than five or ten minutes will be questioned by competent anaesthetists.

The directive to "leave the apical one third of the palatal root of a maxillary molar if it is retained during forceps extraction" will also be challenged. The approach to muco-periosteal flaps is very sound, but for certain locations a flap of better design could have been illustrated.

Altogether, the book contains a wealth of information in clear and condensed form. It is regrettable that certain of the routines recommended resemble more closely the methods of twenty-five years ago than current practice on this continent. It is a valuable publication provided it is read with the necessary discrimination.

J. H. Johnson

Local Anesthesia and Pain Control in Dental Practice

Prepared by: Leonard M. Monheim.

Published by: The C. V. Mosby Co., St. Louis, 1961. Ed. 2.

Pages: 319. Illustrated. Price: \$8.75

Dr. Monheim has fulfilled his objective of providing a book which covers the overall control of pain as related to dental practice.

The physiology and psychology of pain are discussed in the first chapter with the

second chapter being devoted to a very thorough description of those cranial nerves of concern to dentists.

The following six chapters are devoted to regional anaesthesia with comprehensive coverage of the techniques involved, the local anaesthetics and vasoconstrictors available, anaesthetic complications and office emergencies as well as preanaesthetic evaluation and choice of anaesthetic.

Preanaesthetic medication is well presented in chapter 10 and includes the large majority of drugs presently employed. This is followed by a chapter on postoperative control of pain with a very complete list of available drugs.

Chapters on armamentarium, sterilization and medicolegal aspects of regional analgesia complete this text.

This is the second edition of this book, the first edition having been offered in 1957. The only relevant alterations in this second edition are the inclusion of some of the newer drugs, such as mepivacaine (*Carbocaine*) and brexital or methohexital sodium (offered as *Brietal Sodium* in Canada), regional anatomy as related to needle insertion and a discussion of the Ambu resuscitator and the Brook airway.

The book is a valuable text and would be a worthwhile addition to the library of the dental practitioner. However, the purchasing of a second edition to replace an available first edition would not be recommended in view of the very few changes present.

A. E. Hoffman

THE LIBRARY

Additions

ANDERSON, W. A. D. Pathology. 4th ed. St. Louis, Mosby, 1961. 1389 p. illus. \$18.00

ARCHER, W. H. Oral surgery. 3rd ed. Philadelphia, Saunders, 1961. 947 p. illus. \$18.50

BERLINER, A. A disciplined approach for examination, diagnosis and treatment planning. New York, Park Press, 1960. 180 p. \$5.00

BREGSTEIN, S. J. Handbook for dental assistants, hygienists and secretaries. Englewood Cliffs, N.J., Prentice-Hall, Inc., 1961. 364 p. \$6.95

BRITISH SOCIETY FOR THE STUDY OF ORTHODONTICS. Transactions, 1959. Bristol, John Wright & Sons Ltd., 1959. 158 p. illus.

DENTAL CLINICS OF NORTH AMERICA, July 1961. Symposia on I. Local anesthesia and analgesia. II. Oral roentgenology. Pages 229-352; 353-490. illus.

DOBBS, E. C. Pharmacology and oral therapeutics. 12th ed. St. Louis, Mosby, 1961. 578 p. \$10.00

GARDNER, A. F. Dermatologic lesions with oral manifestations. (Practical Dental Monographs, July 1961.) 39 p. illus.

GRABER, T. M. Orthodontics; principles and practice. Philadelphia, Saunders, 1961. 805 p. illus. \$18.50

HOWE, G. L. The extraction of teeth. Bristol, John Wright & Sons, 1961. 70 p. illus. \$3.00

MONHEIM, L. M. Local anesthesia and pain control in dental practice. 2nd ed. St. Louis, Mosby, 1961. 319 p. illus. \$8.75

TRAPOZZANO, V. R. A comprehensive review of dentistry. 3rd ed. Philadelphia, Saunders, 1951. 552 p. \$10.50

IN MEMORIAM

Edgar Harper Crawford — Dr. Edgar Harper Crawford of Victoria, British Columbia, died on March 6, 1961. He was 81.

Dr. Crawford was born at Maplegreen, New Brunswick. He graduated from Northwestern University Dental School in 1910. After practising in the North Okanagan, he joined the Canadian Dental Corps during World War I and upon his return from overseas set up practice in Kamloops.

For many years he represented the interior of the province on the Council of the College of Dental Surgeons of British Columbia, and in 1943 he moved to Victoria where he practised until his retirement in 1959. He was a member of the Victoria Fourandex veterans' organization composed of those who saw front line service.

Surviving are his widow, Mildred in Victoria, a brother and two sisters in Vancouver.

Leonard Henry Gee — Dr. Leonard Henry Gee of Vancouver, British Columbia died on August 20, 1961. He was 59.

Dr. Gee was born at St. Helen's, Lancashire, England in 1902. He studied dentistry at the University of Oregon Dental School, graduating in 1932. That year he established a practice at Vancouver, where he practised ever since. Dr. Gee was British Columbia correspondent for the University of Oregon Dental School Alumni Publication *The Caementum*.

He is survived by his widow, Hazel and a brother, Ronald of Vancouver, British Columbia.

Joseph Houle — Dr. Joseph Houle of Drummondville, P. Que., died on July 15, 1961. He was 50.

Dr. Houle was born at Nicolet, P. Que. He graduated from the Faculty of Dentistry, Dalhousie University, in 1936.

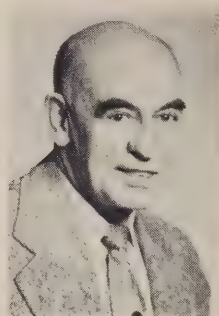
Charles Roy McIntyre — Dr. Charles Roy McIntyre of Gleichen, Alberta, died in July 1961. He was 74.

Born in Linwood, Ontario, Dr. McIntyre graduated from the Royal College of Dental Surgeons of Ontario in 1910. He moved to High River, Alberta in the same year and in 1911 began his dental practice in Gleichen. He practised in Gleichen for fifty years.

Dr. McIntyre is survived by his wife, Mabel; a son, Charles; two daughters, Mrs. M. McHarry, and Mrs. H. Thomson; three brothers, Robert, Allison and Arthur; two sisters, Etta and Olive; and five grandchildren.

Robert Arthur Rooney — The dental profession has suffered a heavy loss in the death of Dr. R. A. Rooney. In ill health for some time, Dr. Rooney died at Edmonton on August 29. Dr. Rooney was a man of humane spirit and high professional standing who served community and nation in private practice, in education, in the profession, and in time of war through the Canadian Dental Corps. Long active as practising dentist, teacher, and officer of dental organizations, he was president of the Canadian Dental As-

R. A. Rooney



sociation in 1943-45. He was registrar-secretary-treasurer of the Alberta Dental Association for 25 years. The decades during which he laboured were marked not only by momentous changes in the social, economic and political life of western Canada but also by a great improvement in the health of the nation.

Dr. Rooney was born in Shelburne, Ontario in 1890. After graduating from the Chicago College of Dental Surgery (Loyola University) in 1911, he began practice in Edmonton. His patients included many third generation members of families whom he had served during fifty years of practice.

Dr. Rooney joined the staff of the Faculty of Dentistry at the University of Alberta in 1940. He advanced to professor of Prosthetic Dentistry and head of the department. A portrait of Dr. Rooney, commissioned by the Alberta Dental Association, was presented to Dr. Walter Johns, University of Alberta president, at a testimonial dinner honouring Dr. Rooney last year. The portrait, painted by J. B. Taylor of the University's Fine Arts department, hangs in the Faculty of Dentistry.

Dr. Rooney had a long association with both local, provincial and national dental groups. President of the Edmonton Dental Society in 1917, Dr. Rooney became registrar-secretary-treasurer of the Alberta Dental Association in 1936, a position which he held until his death. He was president of the Alberta Dental Association in 1931 and again

in 1935. He became the Alberta representative to the Board of Governors of the Canadian Dental Association in 1939. After being president of the Canadian Dental Association from 1943-45, he served faithfully as chairman of the Auxiliary Services Committee. The Committee has had no other chairman. No man can match Dr. Rooney's attendance record at annual meetings of the C.D.A. Board of Governors. He attended almost every meeting since at least 1940 when he was first named to the Board.

Beyond dentistry Dr. Rooney's interests centered upon outdoor life. His hobbies included shooting, fishing and gardening. He was president of the Alberta Fish and Game League in 1942-43.

Dr. Rooney is survived by his widow, Rebecca; one son, Robert, of Santa Ana, California; two daughters, Mrs. Herbert Speer and Mrs. Ernest Hanna; and a sister, Miss G. Rooney, all of Edmonton, and six grandchildren. The most sincere sympathy of the dental profession is extended to Mrs. Rooney and the family.

Frederick John Wentworth — Dr. Frederic John Wentworth of Brantford, Ontario, died on July 21. He was 66.

Dr. Wentworth was born in Brant County, Ontario in 1895. He graduated from the Royal College of Dental Surgeons of Ontario in 1923. During World War I he served with the 54th Battalion overseas.

Surviving are his wife Lola, and a son, Daniel.

Robert A. Willmott — Dr. Robert A. Willmott of Strathroy, Ontario, died on July 31, 1961. He was in his 90th year.

Born in Milton, Ontario, Dr. Willmott graduated from the Royal College of Dental Surgeons of Ontario in 1895. Following postgraduate work at the Pennsylvania College of Dental Surgery, Philadelphia, he moved to Strathroy and practised there until his retirement in 1936.

Surviving are two sons, Dr. R. O. Willmott and Dr. G. W. Willmott, and two grandchildren.

DENTAL PERSONNEL IN CANADA

In January 1961, 5,865 dentists were registered in Canada. — C.D.A. Bureau of Economic Research.

CANADIAN DENTAL ASSOCIATION RETIREMENT SAVINGS PLAN

Statement of Unit Valuation as of August 31, 1961

GOVERNMENT BOND FUND

Investment at Market Value	\$186,616.90
Accrued income (interest)	827.00
Cash on deposit	68.75
TOTAL	\$185,512.65
Less: Administration fee of $\frac{1}{8}$ of 1% of \$185,512.65	231.88
MARKET VALUE OF FUND	\$185,280.77
Units outstanding	16,584.502
UNIT VALUE OF FUND	\$ 11.171

CORPORATE BOND FUND

Investment at Market Value	\$316,667.81
Accrued Income (interest)	1,526.87
Cash on deposit at interest	52.34
TOTAL	\$318,247.02
Less: Administration fee of $\frac{1}{8}$ of 1% of \$318,247.02	397.80
MARKET VALUE OF FUND	\$317,849.22
Units outstanding	27,156.125
UNIT VALUE OF FUND	\$ 11.704

COMMON STOCK FUND

Investment at Market Value	\$668,164.62
Accrued income (interest)	—
Cash on deposit at interest	778.70 (DR)
TOTAL	\$667,385.92
Less: Administration fee of $\frac{1}{8}$ of 1% of \$667,385.92	834.24
MARKET VALUE OF FUND	\$666,551.68
Units outstanding	45,041.882
UNIT VALUE OF FUND	\$ 14.798

Trustee: The Royal Trust Company

Information about the C.D.A. Retirement Savings Plan is available from Mr. J. T. Staddon, 2249 Yonge St., Toronto 7, Ont. Telephone HU. 1-5731.

ANNOUNCEMENTS

Conventions of the Canadian Dental Association

1962	Vancouver, British Columbia	June 3-6
1963	Toronto, Ontario	May 19-22
1964	Edmonton, Alberta	June 28-July 1
1965	Quebec City, Quebec	May 30-June 2
1967	Toronto, Ontario (Centennial Celebration of Dentistry in Canada)	May

FUTURE EVENTS

Date	Function	Location	Officer	Address
Oct. 13-15, 1961	German Dental Association	Mainz, West Germany	Dr. P. Jaeger,	Nikolaistrasse 2, Munich 23, W. Germany.
Oct. 16-19, 1961	American Dental Association	Philadelphia, Pennsylvania	Dr. G. N. Casto, Jr.,	222 East Superior St., Chicago 11, Illinois.
Oct. 19-21, 1961	Japanese Ass'n for Dental Science	Tokyo, Japan	Dr. Macaru Nagao,	4-6 Kudan, Chiyoda-Ku, Tokyo, Japan.
Oct. 23-25, 1961	Montreal Dental Club Annual Fall Clinic	Queen Elizabeth Hotel, Montreal	Dr. J. Vincelli,	6542 Somerled Ave., Montreal, P.Que.
Nov. 12-19, 1961	Uruguay-Argentine Intl. Dental Congress	Montevideo, Uruguay	Dr. J. C. Turrell,	Av. Agraciada 1464 (P.13), Montevideo, Uruguay.
Nov. 20-26, 1961	Congrès de l'Entente Odontologique	Porte de Versailles, France	Dr. J. L. Dephilippe,	39 Boulevard Malesherbes, Paris 8e, France.
Nov. 14-18, 1961	Austrian Dental Society Jubilee Congress	Vienna, Austria	Dr. G. Rothbauer,	Langegasse 9, Vienna 8, Austria.
Nov. 19-23, 1961	VI Biennial Mexican Dental Congress	Mexico City, Mexico	Dr. A. Chisikovsky Perks,	Sinaloa No. 9, Mexico 7, D.F., Mexico.
Nov. 23, 1961	Academy of Dentistry, Toronto, Winter Clinic	Royal York Hotel, Toronto	Mrs. N. H. Montgomery,	230 St. George St., Toronto 5, Ont.
Dec. 27-31, 1961	Alpha Omega Fraternity	Queen Elizabeth Hotel, Montreal	Dr. F. Vosburg,	5292 Queen Mary Road, Montreal, P.Que.
May 13-16, 1962	Ontario Dental Association Convention	Royal York Hotel, Toronto	Mrs. A. Durham,	230 St. George St., Toronto 5, Ont.
June 21-23, 1962	Atlantic Provinces Dental Convention	Digby Pines Hotel, N.S.	Dr. D. C. Eaton,	Farquhar Bldg., Halifax, N.S.

POSTGRADUATE AND REFRESHER COURSES (CANADA)

ALBERTA — A postgraduate course in ORAL DIAGNOSIS, PATHOLOGY and SURGERY will be offered at the Faculty of Dentistry, University of Alberta, November 6-9, 1961. The course is designed to acquaint the dental practitioner with recent advances in the diagnosis, pathology and treatment of common oral lesions and will include surgical and periodontal clinical participation. Tuition fee \$75.

Inquiries and applications should be directed to Dr. K. A. McMurphy, Faculty of Dentistry, University of Alberta, Edmonton, Alberta.

POSTGRADUATE AND REFRESHER COURSES (U.S.)

ALABAMA—December 9-11, 1961—Oral Cancer
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 PENNSYLVANIA—November 30, 1961—Handicapped Problems
 PENNSYLVANIA—December 16, 1961—Ultrasonics in Periodontics
 PENNSYLVANIA—January 8-12, 1962—Periodontal Histopathology
 PENNSYLVANIA—January 15-19, 1962—Practical Procedures of Oral Rehabilitation, Part 1
 PENNSYLVANIA—January 22-23, 1962—Orthodontic Treatment Planning and Associated Appliance Therapy
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 TEMPLE—December 13, 1961—High Speed in Operative Dentistry
 YESHIVA—November 29, 1961—Endodontics
 YESHIVA—October 30-November 3, 1961—Periodontics
 YESHIVA—November 16-17, 1961—Clinical Photography
 YESHIVA—November 30-December 1, 1961—Prosthodontics

Other information concerning dental meetings outside Canada is available at C.D.A. Headquarters upon request.

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JOURNAL

Observations intéressantes sur l'origine de l'épithélium d'un granulome dentaire

par JEAN-GUY BOILY, B.A., D.D.S., Montréal, P. Qué.

Quelle est l'origine de l'épithélium que l'on rencontre dans les granulomes dentaires? Plusieurs ont tenté de répondre à cette question. Les uns, partant d'affinités histologiques, ont élaboré un raisonnement, puis ont tiré une conclusion; d'autres ont surtout procédé par l'expérimentation pour soutenir une autre théorie. Nous pouvons donc grouper les différentes opinions en deux théories principales.

W. Warwick James et Arthur Counsell⁴ ont présenté une étude sur la question. Ils en sont venus aux conclusions suivantes:

1. l'épithélium, associé avec les infections chroniques du tissu apical des dents, tire son origine de l'épithélium de la bouche et est toujours associé à une cavité (sinus) préexistante qui est encore présente ou oblitérée;

2. morphologiquement, les cellules épithéliales du granulome dentaire ressemblent à celles de l'épithélium de surface et sont différentes de celles des restes épithéliaux;

3. il n'y a pas de raison de croire que les restes épithéliaux jouent un certain rôle dans la production d'un épithélium pathologique. Ces conclusions résument l'opinion d'un premier groupe.

Travail préparé dans le service de pathologie de la faculté de chirurgie dentaire de l'Université de Montréal.

Par contre, McConnell et Hill³ et plusieurs autres soutiennent que:

1. tous les granulomes contiennent de l'épithélium;

2. non seulement il y a une similitude morphologique entre l'épithélium proliféré et le granulome dentaire, mais une transformation actuelle des restes de l'organe adamantin, à l'épithélium des granulomes dentaires;

3. occasionnellement, les granulomes dentaires contiennent un épithélium qui semble venir du sinus maxillaire.

Cette deuxième théorie est aujourd'hui la plus possible. Ce travail n'a pas pour but de prouver l'une ou l'autre des théories ci-haut énoncées, mais je crois qu'il apporte un témoignage assez intéressant sur la question. Il s'agit d'une série de coupes d'une dent manifestement jeune par son apex largement ouvert. Cette dent présente un granulome apical assez particulier. En effet, sur la microphotographie no 1, on remarque un granulome apical abcédé qui entoure l'apex d'une dent jeune. On remarque partout des trainées ou des îlots épithéliaux, au centre un abcès, en bas à gauche de la dentine irrégulière et en haut au centre de la résorption.

On peut ici s'interroger sur les phénomènes physiologiques et pathologiques qui ont formé cette image histologique. Il importe d'abord de rappeler qu'un granulome dentaire est une périodontite apicale chronique caractérisée par la formation d'un nodule localisé de tissu d'inflammation. Histologiquement, le granulome consiste d'abord en du tissu d'inflammation qui évolue ensuite vers du tissu conjonctif collagène infiltré par un nombre varié de lymphocytes, plasmocytes et de grands mononucléaires et polynucléaires leucocytes. Plusieurs contiennent de gros ou petits îlots d'épithélium stratifié pavimenteux ou cuboïde. Nous avons tantôt mentionné deux théories populaires sur l'origine de cet épithélium.



FIGURE 1 Coupe longitudinale d'une dent jeune montrant un granulome abcédé entourant l'apex. Dans la masse du granulome, des îlots et des trainées épithéliales. En bas à gauche, de la dentine irrégulière. Leica Obj. 1X.

Sur les microphotographies nos 2 et 3, on remarque une continuité assez frappante entre l'épithélium du granulome et l'épithélium de la membrane épithéliale d'Hertwig. Ce phénomène viendrait démontrer une troisième origine possible de l'épithélium dans le granulome dentaire: l'épithélium tirerait son origine directement de la gaine épithéliale d'Hertwig active. Ce phénomène observé ne vient pas rejeter les théories précédentes, mais vient ajouter une troisième possibilité quant à l'origine de l'épithélium du granulome apical. Les longues trainées et les îlots épithéliaux que l'on observe sur les microphotographies nos 2 et 3 auraient donc été engendrés par la membrane épithéliale d'Hertwig active qui, sous l'influence d'une stimulation pathologique, aurait proliféré.



FIGURE 2 Coupe de la même dent montrant, au centre, une continuité assez nette de la membrane épithéliale d'Hertwig avec l'épithélium du granulome. Obj. 2.5X.



FIGURE 3 Même coupe à un grossissement plus grand. Cette continuité est ici évidente. Obj. 10X.

Sur la microphotographie no 4, on remarque que l'épithélium pathologique s'est invaginé dans le canal radiculaire pour former un cône qui s'enfonce jusqu'au tiers apical. Cette prolifération épithéliale semble avoir été stimulée à un moment bien précis. En effet, sur la microphotographie no 5, on voit qu'à un certain endroit la dentine devient sans contour régulier et semble mal organisée. La microphotographie no 6 nous montre une irrégularité des tubulis dentinaires. De plus, la calcification semble avoir été troublée et s'être opérée par poussées qui donnent l'aspect d'un escalier.

Selon l'opinion générale, la formation de la racine serait liée à la présence de la membrane épithéliale d'Hertwig. En effet, par son contact, la membrane d'Hertwig formée par l'union de la couche

interne et externe de l'épithélium de l'organe adamantin, différencierait les odontoblastes pour former la dentine radiculaire. Mais sur la microphotographie no 5, la membrane épithéliale d'Hertwig semble disparue et la dentine radiculaire s'est quand même formée. Cette observation a été faite aussi par Z. Mézl qui a trouvé au moyen d'expériences la non nécessité de la membrane d'Hertwig pour la formation de la racine. En effet, selon Mézl, "la pulpe, privée pendant le développement de la racine d'une grande partie de l'épithélium de la gaine d'Hertwig, continue sa prolifération et accomplit la formation de la racine." "L'épithélium de la gaine d'Hertwig donne à la pulpe proliférante une limite; il ne permet pas sa coalescence avec le tissu mésodermique adjacent, ni l'accès des vaisseaux acces-



FIGURE 4 Coupe de la même dent qui nous montre l'invagination de l'épithélium jusqu'au tiers apical. L'épithélium épouse le bord interne du canal radiculaire et donne l'aspect d'un cône. Obj. 2.5X.



FIGURE 5 Coupe de la même dent montrant la prolifération irrégulière de la dentine après le trouble pathologique. Obj. 2.5X.

soires. Ainsi il aide à la formation d'une couche dentinaire ininterrompue, d'une surface radiculaire et d'une limite entre la dentine et le ciment."⁶

Sur les microphotographies nos 5 et 6, cette limite est irrégulière et est expliquée par la disparition de la membrane d'Hertwig depuis le moment du trouble pathologique.

Enfin, conséquemment à la condition pathologique, nous observons sur la microphotographie no 7 une résorption le long de la paroi externe de la racine.

Une série d'autres dents jeunes présentant des granulomes dentaires ont été préparées pour l'examen microscopique; aucune d'entre elles ne présentait les particularités ci-haut décrites, ni même de l'épithélium dans la formation de la dentine apicale. Ce trouble s'explique par

un changement pathologique de la membrane épithéliale d'Hertwig à un certain moment, puis la dentine apicale a continué à proliférer d'une façon irrégulière. Le cas ci-haut décrit serait donc rare et indiquerait uniquement que l'épithélium du granulome dentaire pourrait tirer son origine de la membrane épithéliale d'Hertwig.

RÉSUMÉ

Nous venons d'examiner un cas très intéressant de granulome dentaire entourant l'apex d'une dent jeune. Ce granulome contient des traînées épithéliales qui semblent continuer directement l'épithélium de la membrane d'Hertwig. L'image microscopique nous laisse croire à un

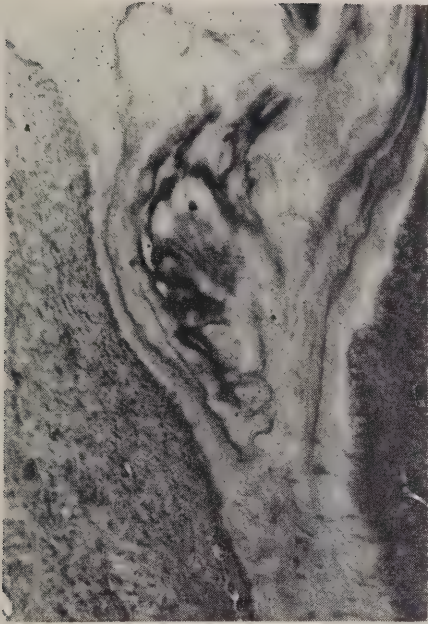


FIGURE 6 La même coupe à plus fort grossissement. Noter l'irrégularité des tubulis dentinaires, la calcification qui semble s'être opérée par poussées qui donnent l'aspect d'escalier. Obj. 10X.



FIGURE 7 Sur une coupe de la même dent, on remarque sur la paroi externe de droite un début de résorption. Obj. 2.5X.

trouble pathologique de la membrane d'Hertwig, et celle-ci, encore active, s'est mise à proliférer dans la masse du tissu d'inflammation. D'autre part, la dentine a continué son évolution proliférative vers l'apex, mais d'une façon irrégulière et troublée, la membrane d'Hertwig ne présidant plus son orientation et sa limitation externe. Cette origine possible de l'épithélium dans un granulome viendrait compléter les origines possibles déjà reconnues. En effet, cet épithélium tirerait son origine, soit des débris de Malassez, soit de la muqueuse buccale par l'intermédiaire d'une cavité (sinus) préexistante.

SUMMARY

This article describes the histopathological formation of the epithelium of a granuloma surrounding the apex of a young tooth.

The granuloma contains epithelial traces that simulate the continuation of the epithelial sheath of Hertwig. It seems as if this sheath proliferates in the inflamed tissue to form the lining of the granuloma.

However, dentine continues to grow toward the apex, but in an irregular pattern, because Hertwig's sheath no longer defines its anatomical limits.

According to the microphotographs of the case here presented, the epithelium surrounding the granuloma appears to be derived from the epithelial rests of Malassez or from the mucous membrane lining a pre-existing cavity or sinus.

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L'indépendance et les droits de la profession en regard du fonctionnarisme et de la socialisation de la dentisterie

par LOMER LEMIEUX, B.A., D.D.S., D.H.P.H., Montmagny, P. Qué.

Les droits de la profession dentaire sur la distribution des soins peuvent-ils être lésés par l'abus d'un fonctionnarisme d'état ou par les services de bien-être dentaire que l'on réclame de plus en plus sous la poussée des formules socialisantes? Est-il aussi dangereux que l'on tente d'uniformiser, de standardiser ou de réglementer l'exercice de notre profession, en constituant nos membres fonctionnaires des services de santé ou employés du gouvernement dans nos bureaux?

Alors que les problèmes de notre profession se font de plus en plus nombreux, qu'ils sont abordés sur tant de plans à la fois et dans des perspectives si diverses, il importe avant tout de bien comprendre à quel niveau se situent chacune de ces questions et chacun des principes sur lesquels on peut les baser.

Autrement, on parlera dans la confusion la plus complète comme déjà on a commencé à le faire. Ainsi, certains veulent la création de structures nouvelles,

d'autres veulent simplement la coordination des structures actuelles, d'autres veulent mettre les structures elles-mêmes en cause, d'autres vont plus loin et contestent les principes fondamentaux sur lesquels elles s'appuient.

On peut certainement établir des structures basées sur les principes de l'hygiène dentaire publique et sur ceux de la distribution plus adéquate des soins dentaires de manière à satisfaire parfaitement les buts que se proposent les membres de notre profession de fournir les soins les meilleurs et d'être rémunérés convenablement pour les services qu'ils doivent rendre. Pour ce faire, il faudra surtout considérer la relation des structures entre elles et les former en tenant compte de l'indépendance de la profession dans l'exercice de ses droits.

La distribution des soins dentaires repose sur deux principales structures qui demandent à être dissociées et réformées dans la province pour le bien et surtout pour le prestige de la profession: l'une, fondamentale, les services d'hygiène dentaire publique, est une structure de base

Conférence prononcée à Ste-Marie, Beauce, le 1er juillet 1961, au Congrès de la Société dentaire de la Rive-Sud.

au service autant de la profession que de la population et absolument indispensable à celle-ci comme à celle-là; l'autre, les services de bien-être dentaire, devient de plus en plus une nécessité. Ces services formellement curatifs peuvent être organisés en rapport avec un programme déjà bien établi en hygiène dentaire publique.

En ce moment où la population a tendance à charger les gouvernements d'obligations qu'il leur est impossible d'exécuter adéquatement, il convient d'analyser les conditions dans lesquelles un programme d'hygiène dentaire publique peut être appliqué et administré. Il y a des conditions indispensables pour sa mise en action, puisque le dentiste doit demeurer celui qu'on choisit parce qu'on a confiance en lui. Celui-ci ne doit pas devenir un employé de l'état qu'on impose à un patient. Par ailleurs, l'état ne doit pas devenir guérisseur, dentiste ou videur de bouches.

LES DROITS DÉLÉGUÉS À LA PROFESSION MÉDICALE PAR LE GOUVERNEMENT DE LA PROVINCE

Nous devons convenir que le gouvernement de la province a un droit de juridiction exclusive, non seulement sur ce qui regarde l'établissement et l'organisation de notre profession, mais aussi en ce qui regarde sa réglementation. Ce droit, avec d'autres, lui fut concédé par l'Acte de 1760. Bien plus, et en vertu de ces droits, la juridiction provinciale s'étend "à la surveillance et à la protection de la santé publique". Pour exercer ce droit, le gouvernement provincial a formulé une loi créant le service provincial d'hygiène sous le titre de "Loi de l'Hygiène Publique de Québec" (S.R.Q. 1941, chap. 183). Par une autre loi, "Loi des Unités Sanitaires" (S.R.Q. 1941, chap. 184) le gouvernement institua "des organisations d'hygiène permanentes" dans les comtés de la province.

Dans chaque unité sanitaire, "l'officier médical assume à titre d'officier exécutif tous les pouvoirs, devoirs et prérogatives

que la Loi de l'hygiène publique de Québec (chap. 183) et les règlements édictés sous son empire lui attribue".

Cependant, dans ces lois, aucune distinction ou spécification n'est faite en ce qui concerne l'hygiène dentaire. Cette dernière discipline est soumise aux mêmes lois, sous une autorité exclusivement médicale: ce qui cause une anomalie, crée de la confusion et provoque des conflits. Les dentistes se sentent facilement persécutés par les médecins-hygiénistes, officiers médicaux, ou humiliés peut-être du fait que ceux-ci, d'une profession égale en valeur et en prestige sont leurs patrons, lorsqu'il s'agit d'exercer leurs droits d'accomplir des actes professionnels qui leur sont propres. Le prestige de la profession souffre de cette situation qui prête à faux et qui est cause de suspicion entre les membres de deux professions qui devraient collaborer dans une action concertée pour la santé publique. Parce que, dans ce domaine, les prérogatives ne sont pas légalement attribuées à chaque profession; chez les uns, les fonctions d'un corps supérieur, établi à tort, sont entrevues avec une certaine crainte; chez les autres, on constate parfois des réactions liées à une défense d'une certaine autonomie, d'un sens de l'initiative et de l'apport personnel.

LES DROITS QU'UNE PROFESSION PARA-MÉDICALE INDÉPENDANTE DOIT REVENDIQUER

En constituant légalement la chirurgie dentaire, non pas une spécialité de la médecine, mais une profession autonome, on lui a permis d'avoir son propre Collège, sa faculté distincte, son curriculum d'études et son code d'étiquette professionnelle. En conséquence, l'autorité dentaire, sur l'exécution d'un programme complet et unifié en hygiène dentaire publique officiellement accepté dans la province de Québec, ne devrait-elle pas être relativement proportionnelle à la responsabilité du dentiste de répandre

parmi la population les connaissances de la science dentaire nécessaires à la prévention des maladies buccales et de fournir les soins préventifs les meilleurs par l'exercice de son art selon la technique professionnelle propre en hygiène dentaire publique?

Il est inconcevable que les dentistes subissent plus longtemps l'habitude de recevoir d'une autre autorité que d'une autorité dentaire, en l'occurrence d'une autorité médicale, précisément du "chef des unités sanitaires, les instructions relatives à leur travail en hygiène dentaire".

Est-ce logique, en effet, que l'on ait fait des lois pour réglementer une profession para-médicale indépendante dans l'exercice de ses actes professionnels en pratique dentaire privée et que l'on ait laissé le dentiste sous une autorité médicale en ce qui regarde les actes professionnels qu'il doit accomplir en hygiène dentaire publique?

Pour la profession, ce serait faire fausse route que de chercher en dehors des cadres déjà établis au Ministère de la Santé, à cause de ces conditions, la solution du problème de l'hygiène dentaire publique. Ne vaudrait-il pas mieux exiger que l'on modifie et réforme les cadres où celle-ci évolue? Ne vaudrait-il pas mieux, pour le prestige de la profession, que l'on réclame légalement nos droits?

Parce que, dans ce domaine de première importance pour nous, le prestige du dentiste n'a pas été protégé; parce que la clinique dentaire dans les unités sanitaires n'a pas trouvé sa place logique au service de l'éducation et de la prévention; parce que la profession n'a jamais réclamé ses droits et des règlements pour l'exécution d'un programme officiel, complet et unifié est-ce une raison pour chercher à dissocier les principes de l'hygiène dentaire publique et de chercher à amplifier l'action ou de créer d'autres organismes pour tenter de combler les lacunes existantes?

Ne serait-ce pas plutôt un moyen de donner à la profession le prestige qui lui revient dans la population si, au lieu de se diviser, nous nous unissions pour faire

valoir nos droits? En démocratie, ce n'est pas au gouvernement à imposer des règlements ou à fixer des droits: il appartient à la profession de les réclamer en faisant valoir ses justes revendications!

INTÉGRATION DES SERVICES D'HYGIÈNE DENTAIRE PUBLIQUE DANS LE SERVICE GÉNÉRAL D'HYGIÈNE PUBLIQUE

On admet généralement que l'hygiène dentaire est aujourd'hui une activité très importante dans tout programme de santé publique. A ce sujet, la Commission d'enquête sur la dentisterie aux Etats-Unis fait la recommandation suivante:

"The federal public health traineeship program and the dental officer career development program of the U.S. Public Health Service be expanded".

L'hygiène dentaire publique constitue une structure de base indispensable à la profession. Elle doit primer toutes les autres puisque par elle on pourra susciter parmi la population une demande de plus en plus grande pour les soins dentaires bien compris et adéquats par les dentistes de pratique privée et amoindrir les besoins grandissants de soins dentaires encombrants pour la profession, parce que disproportionnés à notre idéal et facteurs de troubles au sein même de la profession.

Certains verrons dans ces déclarations de principes un manque d'objectivité. Ne serait-ce pas plutôt un manque d'idéal de notre part dans l'unification d'un plan d'action qui nous fait chercher des solutions plus immédiates aux maux qui pèsent sur la profession: problème de recrutement, problème de la pratique illégale, problème des extractions faites par les médecins, problème de mauvaise distribution des dentistes, problème des dentistes ambulants, problème des cliniques de la Croix-Rouge et celles des unités sanitaires, problème des honoraires minima raisonnables, etc...?

Afin d'aider à résoudre ces problèmes, ne serait-il pas temps de donner une nouvelle orientation à l'hygiène dentaire?

Ne serait-il pas temps de reviser nos services d'hygiène dentaire, afin de les baser sur l'éducation, la surveillance dentaire et la démonstration des soins préventifs? Ne serait-il pas temps de modifier les objectifs de l'hygiène dentaire dont la profession est responsable en vue d'une action unifiée et concertée? Ne serait-il pas temps que l'hygiène dentaire publique soit intégrée dans la structure générale du Ministère de la Santé de façon à assumer la même responsabilité commune que les diverses autres disciplines?

On ne pourra pas, en effet, orienter l'hygiène dentaire publique vers une nouvelle conception à moins que l'autorité dentaire soit proportionnellement relative à la responsabilité et que le directeur du programme d'hygiène dentaire publique soit placé à l'échelon de tous les autres officiers supérieurs responsables de toutes les activités de leurs disciplines respectives. On admettra que c'est pourtant là un principe fondamental de toute bonne administration. Et si nous ne sommes pas prêts à faire confiance à un directeur des services d'hygiène dentaire publique, nous ne parviendrons jamais à conquérir notre prestige.

UN SUJET DE CONTROVERSE: LES TRAITEMENTS

L'hygiène dentaire publique, d'après la définition de Winslow, est "la science et l'art de prévenir les maladies bucco-dentaires, de prolonger la vie de la denture, de promouvoir la santé et l'efficacité des dents et des tissus environnants, par la mise en œuvre de mesures éducatives, préventives et correctives au sein de la population".

Mais nous savons que la correction est depuis longtemps un sujet de controverses parmi nous. La légitimité de la correction en hygiène dentaire publique est souvent mise en doute. Dans ce domaine comme dans celui de l'éducation, il y a opposition dans les idées, parce qu'il y a incompréhension de l'ensemble du problème de l'hygiène dentaire publique.

Les divergences de vues n'existeraient pas, si nous nous unissions pour former convenablement les structures dont les buts devraient être définis. Il est peut-être difficile, dans les circonstances actuelles, de concevoir que les traitements formellement préventifs et éducatifs et ceux formellement curatifs puissent être fournis tout en constituant des objectifs différents. Les premiers devraient faire l'objet des services d'hygiène dentaire publique; les seconds, l'objet des services de bien-être dentaire. Ces deux structures différentes, toutes deux sous la responsabilité de la profession, ont besoin, l'une d'être réformée; l'autre, d'être organisée pour remplir des rôles respectifs.

Un programme d'hygiène dentaire publique trouve sa place logique dans une organisation d'hygiène publique à condition qu'il participe à l'amélioration de la santé de l'individu. Notre conception de l'hygiène dentaire doit être orientée vers la conservation de la santé générale. Ainsi, les maladies de gencives, non seulement ont une répercussion sur la santé générale, mais elles sont souvent l'indice de carences ou de déficiences constitutionnelles de l'individu. On peut dire que toutes les autres parties de l'organisme souffrent plus ou moins de certaines déficiences qu'ont provoquées, dans une certaine mesure, des maladies buccales. Les insuccès des restaurations dentaires sont aussi, en partie, dus à ce que des dents mal formées, répondent mal aux traitements.

Or le moyen le plus efficace de conserver la santé buccale est surtout l'intervention technique du dentiste par la pédiodontie. Si nous appliquons notre science à conserver en bon état la denture des enfants, nous préviendrons l'accumulation des défauts dentaires et, partant, l'accumulation des besoins encombrants pour la pratique privée. Nous arrivons de plus en plus à penser que les traitements, s'ils sont formellement éducatifs et préventifs, sont justifiables et d'une grande importance en hygiène dentaire publique. La conservation des dents temporaires et des molaires de six ans assure l'établissement

d'une denture permanente complète, prévient la perte prématurée des dents et les malocclusions consécutives.

En hygiène dentaire publique, l'unité d'action, en raison de la dépendance des principes entre eux, est capitale. L'éducation, tant au point de vue professionnel que populaire, doit précéder et accompagner la clinique, parce que l'éducation concourt à la prévention et aide à la correction des maux dentaires. La prévention par la surveillance dentaire et la correction par la démonstration des soins dentaires appuient l'éducation. Les trois avenues essentielles à la bonne marche d'un programme unifié sont donc: l'éducation en hygiène dentaire à tous les niveaux; les cliniques d'examen et de prophylaxie dans les écoles; les cliniques de traitements formellement préventifs et éducatifs, dans les bureaux des unités sanitaires, selon une stratification par groupe d'âges, en raison des besoins et de l'organisation du programme sans égard aux conditions dentaires, à l'urgence de l'intervention ou à l'indigence.

De même que des organismes indépendants et bénévoles peuvent faire leur part dans l'éducation, par exemple, par la distribution d'une propagande éducative, ainsi des organismes indépendants peuvent aider, dans la pratique privée, à la distribution des soins dentaires, sans toutefois faire partie intégrante d'un programme complet d'hygiène dentaire publique. Aussi, un plan de bien-être dentaire ne pourra jamais constituer un programme d'hygiène dentaire publique. Par contre, un programme d'hygiène dentaire publique ne peut avoir pour unique objectif les soins formellement curatifs donnés aux enfants de familles nécessiteuses et nombreuses. Cependant, si aucun organisme ne peut s'occuper des enfants de familles nécessiteuses et nombreuses, les services de santé peuvent choisir ce groupe d'enfants pour faire la démonstration des soins formellement préventifs et éducatifs selon les objectifs précis de leur programme général.

Dans un programme unifié et concerté, plusieurs subdivisions peuvent être rattachées à ces trois grandes avenues. Ainsi, comme corollaire, le gouvernement pourrait établir un plan de bourses d'études et de subsides pour l'établissement de dentistes dans certaines localités désignées par le Ministère. Le Ministère de la Santé pourrait défrayer, pour ses dentistes engagés à temps complet, les frais d'un cours post-universitaire. Ce cours de clinicien-dentiste peut être donné à l'Ecole d'hygiène en collaboration avec la Faculté dentaire. Il faudra songer à établir des cliniques d'unités mobiles pour desservir des localités éloignées des organismes d'hygiène dentaire permanents et des bureaux privés. Il faudra aussi songer à ce que chaque organisation permanente puisse bénéficier des services d'une infirmière dentaire, en particulier pour la mise en pratique d'une mesure d'hygiène dentaire préventive comparable à l'innoculation en hygiène publique et devenue nécessaire, à savoir l'application topique du fluor.

Selon la politique de l'Association dentaire canadienne, cette partie du programme favoriserait activement l'établissement de cours d'hygiénistes dentaires au niveau universitaire. L'embauchage de ces hygiénistes dans les entreprises d'hygiène publique, toujours selon l'Association dentaire canadienne, augmenterait les services dentaires. Bien plus, de telles assistantes jouent un rôle important dans l'opinion que la population se forme des services dentaires. Dans les cliniques dentaires du Ministère de la Santé, les infirmières-hygiénistes ne devraient pas s'arroger le titre de titulaires de l'hygiène dentaire dans leur comté respectif, titre qui appartient de droit au dentiste-clinicien. Leur rôle ne devrait pas plus se résumer à remplir des formules et à assister le dentiste au fauteuil. Ce sont là des anomalies dues au fait que les fonctions sont mal définies. Le rôle de l'infirmière-hygiéniste, dans un programme d'équipe, serait plutôt l'éducation individuelle et occasionnelle par la revue péri-

dique, afin de vérifier la portée des recommandations du dentiste, s'enquérir de l'attitude des parents, faire, s'il y a lieu, leur éducation, faire le lien entre la famille et l'école; ce qui rendrait plus objectives les cliniques dentaires et unifierait davantage les efforts d'éducation.

Avant tout, il est nécessaire qu'une autorité dentaire puisse émettre les directives en accord avec un programme révisé; que les dentistes-hygiénistes puissent voir à son exécution, à son administration technique et à son évaluation. Pour ce faire, nous avons des droits à revendiquer qui établiront les fonctions respectives en rapport avec les principes du programme. C'est à la seule condition qu'un tel programme soit organisé que l'on pourra songer à instituer un plan de bien-être dentaire qui compléterait une structure de base déjà bien établie.

L'HYGIÈNE DENTAIRE PUBLIQUE EST L'AFFAIRE DE TOUS LES DENTISTES

On peut se demander si le retard que nous accusons dans le domaine de l'hygiène dentaire publique n'est pas dû à notre individualisme. Le dentiste, dans son cabinet de travail, fut peut-être le premier à penser que l'hygiène dentaire n'intéressait que la population. Préoccupé par son travail, le dentiste, dans le passé, a presque totalement surveillé la santé dentaire du haut de sa tour d'ivoire ou dans l'anonymat.

Par contre, dès que la réorganisation de l'hygiène dentaire publique, au niveau provincial, fut mise à l'étude, on a réalisé que, malheureusement, les dentistes dans les services de santé, sont souvent à la merci du fonctionnarisme; que, dans la distribution des soins dentaires, l'indépendance et les droits de la profession ne sont pas toujours respectés.

Il nous faut donc repartir à neuf. Il nous faut reviser complètement nos structures et les former selon des normes acceptables. Ces normes, il faut les penser, en tenant

compte des exigences de la profession et des besoins de la population.

Entrons de nouveau au Ministère de la Santé, mais cette fois-ci, par la porte d'avant et avec des privilèges que peut nous apporter une Loi d'Hygiène Publique amendée. L'occasion nous en est fournie par la rénovation de la chartre administrative que présente le Ministère.

L'intégration de l'hygiène dentaire dans la structure générale de l'hygiène publique doit se faire de façon que les fonctions, en ce qui regarde la technique professionnelle, soient légalement attribuées aux membres de la profession; que l'autorité dentaire pour l'exécution d'un programme officiel soit basée sur les droits et les privilèges réclamés par la profession. Le Collège pourrait avoir droit de regard sur un programme complet et unifié selon les principes établis dans la définition même de l'hygiène dentaire publique. En accord avec notre code d'éthique professionnelle sur la responsabilité envers la profession et le public, tous les dentistes doivent concourir à la réalisation de ce programme en lui fournissant leur appui total. Ils doivent réaliser que la prévention est aussi importante que les traitements qu'ils peuvent prodiguer. Ils ne doivent jamais manquer l'occasion de faire connaître le but et les ambitions de la profession en hygiène dentaire publique.

Dans de telles conditions, la profession n'a pas à craindre les mauvais effets du fonctionnarisme. En suivant une programmation à long terme, basée sur des normes bien établies, nous resterons maîtres de la situation, nous dominerons le fonctionnarisme et les formules sociales de distribution des soins dentaires.

SUMMARY

The author describes a legal situation which is detrimental to the dental profession.

Health units in the province of Quebec are under the direction of a medical

practitioner and the dentist working in these units comes under the jurisdiction of the physician.

The dental profession, on the other hand, has its own legal status, its own schools, its own legal body (licensing board). The profession is entirely autonomous except insofar as the health units are concerned. This situation must now be corrected.

Dental public health should be integrated into the general public health program and dental health education of the public should be separated from treatment services.

The practising dentist should support the public health dentist in his quest for greater freedom of action.

C.P. 717 Montmagny, P.Qué.

LES ACTUALITES DENTAIRES

L'Association dentaire canadienne

LA REUNION ANNUELLE DU CONSEILS DES GOUVERNEURS

Voici les faits saillants de la réunion annuelle du Conseil des Gouverneurs de l'A.D.C., qui s'est déroulée à Saskatoon du 31 mai au 3 juin derniers.

- Le nombre des membres du comité des services auxiliaires, de trois qu'il était, a été porté à cinq; ce comité a été invité à faire part de ses projets d'avenir.
- Le docteur W. G. McIntosh, de Toronto, ancien président de l'A.D.C., a été nommé président d'un nouveau comité de direction dont la fonction sera de rédiger un mémoire pour la commission royale de santé. Une autre de ses fonctions est de reviser, sur demande, les mémoires soumis à la commission par d'autres organismes dentaires.
- Les congrès à venir de l'A.D.C. devraient inclure des conférences ou des débats sur les tendances politiques ou économico-sociales susceptibles d'influencer l'exercice de la dentisterie, de façon à ce que les dentistes soient tenus au courant de ces questions. Le Conseil des Gouverneurs a endossé ce vœu qui avait été énoncé par le Conseil Exécutif.
- Le secrétaire de l'A.D.C., le docteur Don W.

Gullett, a été nommé délégué officiel de l'Association canadienne à la Fédération dentaire internationale pour 1961, 1962 et 1963. Le docteur Gullett est actuellement membre du Conseil de la F.D.I.

- Les Gouverneurs ont sanctionné les amendements apportés aux constitutions de la section d'orthodontie et de la section de la dentisterie pour les enfants.
- La déclaration de politique de 1960 au sujet de la dissémination des services dentaires au Canada a été amendée après un long débat. La nouvelle déclaration a été envoyée aux membres de l'A.D.C., à la fin de l'été.

L'A.D.C. REAFFIRME SA POLITIQUE AU SUJET DE LA FLUORATION

Le Conseil des Gouverneurs, à sa réunion de Saskatoon, a, de nouveau, réitéré l'opinion de l'Association dentaire canadienne au sujet de la fluoration; l'Association endosse depuis plusieurs années l'application de cette mesure d'hygiène publique.

La résolution du Conseil recommande aux municipalités de fluorer l'eau de leurs aqueducs, car des recherches prolongées ont prouvé que la fluoration est une mesure sûre et efficace pour abaisser le taux de la carie dentaire.

Le conseil des recherches a en outre fait une recommandation au Conseil, qui l'a approuvée; cette recommandation déclare que les comprimés ou les solutions concentrées de fluor utilisés à la maison mériteraient d'être l'objet de recherches plus poussées, mais ne seront jamais susceptibles de remplacer la fluoration de l'eau de consommation.

LE DOCTEUR KEENAN NOMME PRESIDENT-ELU

Le docteur M. K. J. Keenan, de Sudbury, Ontario, a été nommé président-élu de l'Association dentaire canadienne par le Conseil des Gouverneurs à sa réunion de Saskatoon. Le docteur Keenan, qui a participé durant de nombreuses années aux organisations dentaires et civiles de sa localité, est le président sortant de charge du Collège Royal des Chirugiens-Dentistes d'Ontario. Le docteur Keenan officiera au congrès de 1963, qui aura lieu à Toronto au mois de mai.

AGRANDISSEMENT DU SECRETARIAT DE L'A.D.C.

Le secrétariat de l'A.D.C., à Toronto, sera agrandi en contruisant une addition moderne de deux étages à l'arrière de l'édifice actuel. Le Conseil des Gouverneurs, à sa réunion de juin dernier, en a approuvé les plans préliminaires. Le Conseil a rejeté une recommandation suggérant le déménagement du secrétariat à Ottawa, la capitale du Canada.

On ne croit pas que cette addition sera terminée cette année, car les plans ne sont pas encore complétés; de plus, on n'a pas encore de permis de construction de la ville et les soumissions n'ont pas été demandées.

LE CONSEIL DES RECHERCHES ACCORDE DES OCTROIS POUR UNE SOMME DE \$11,500

Le conseil des recherches de l'Association dentaire canadienne a accordé des octrois se chiffrant à \$11,500 à des dentistes et à des étudiants. Quatre dentistes et huit étudiants ont reçu des octrois pour les aider dans leurs recherches.

Toutes les facultés dentaires canadiennes ont des étudiants qui ont reçu des octrois et qui travaillent à des recherches durant leurs vacances. Le but de ces octrois est de familiariser les étudiants avec les recherches et

de les encourager à devenir des professeurs et des chercheurs, à la fin de leurs études. Ces bourses sont octroyées par le conseil des recherches grâce à des fonds qui lui sont votés tous les ans par l'A.D.C.

DEUX FINISSANTS DE MCGILL GAGNENT LES PRIX DU CONCOURS DU MEMORIAL DE GUERRE

Deux finissants de McGill ont gagné les prix du Concours du Mémorial de Guerre de l'A.D.C. pour 1961. Le premier prix de \$200 a été décerné à Ronald Fletcher, de Montréal, et le second prix de \$100 à George Saleh, aussi de Montréal. Ces prix sont décernés aux gagnants d'un mémoire proposé chaque année aux finissants des facultés dentaires canadiennes. Le thème de 1961 était: "Etude sur la valeur de la médication antibiotique en dentisterie." Les deux mémoires qui ont gagné des prix seront publiés dans le *Journal de l'Association dentaire canadienne*.

UN DENTISTE DE SASKATCHEWAN NOMME MEMBRE HONORAIRE

Le docteur A. A. B. Kenney, de Maple Creek, Saskatchewan, a été nommé membre honoraire de l'Association dentaire canadienne, au cours de la réunion annuelle de Saskatoon.

Le docteur J. P. Whyte, président de l'A.D.C., en présentant le certificat au docteur Kenney a déclaré: "Cette année, nous honorons un praticien général, qui, durant quarante-deux ans, a travaillé consciencieusement, sans bruit et avec dévouement". Le docteur Kenney a obtenu son diplôme de dentiste, à Toronto, en 1915. Il fit partie des forces armées, où il exerça en Sibérie avec les Anglais, avant de s'établir à Maple Creek.

"En honorant le docteur Kenney, a dit le docteur Whyte, nous rendons hommage à tous les dentistes qui exercent dans les campagnes et qui ne peuvent pas, à l'instar de ceux qui vivent dans les grandes villes, facilement participer à l'organisation de notre profession au niveau provincial et à l'échelle nationale."

LA PAGE DANS LES "HIGH NEWS" EVEILLE L'INTERET DES ETUDIANTS

Le secrétariat de l'A.D.C. continue à recevoir des demandes pour le fascicule "Advantages

TABLEAU 1 Classement par année scolaire des coupons "Canadian High News" reçus au secrétariat.

Classes	Nombre de réponses
écoles primaires	8
écoles secondaires	
9e année	38
10e année	28
11e année	48
12e année	34
13e année	17
autres	15
TOTAL	188

of careers in dentistry", comme suite à une page qui avait été publiée sur la dentisterie dans la livraison spéciale des High News au sujet des vocations. Ce numéro spécial avait un tirage de 100,000 copies, qui furent envoyées dans les écoles secondaires du Canada. Quelques 200 coupons de cette page avaient été découpés et expédiés au secrétariat pour recevoir le fascicule en question.

Cette page avait été payée pour la quatrième année consécutive par les compagnies dentaires en collaboration avec l'A.D.C. Les renseignements inscrits sur les coupons par les requérants permettent de compiler la provenance par province des étudiants et leurs classes, tel qu'on peut le voir dans les tableaux ci-après.

DECES DU DOCTEUR ROONEY

Arthur Rooney est mort. Le docteur Rooney, malade depuis quelque temps, est décédé à Edmonton, le 29 août. Il a exercé longtemps, il a fait de l'enseignement et a pris une part active à l'organisation de la profession dentaire. Il fut président de l'Association dentaire canadienne en 1943-1945; il fut secrétaire-registraire de l'Association dentaire d'Alberta durant vingt-cinq ans. Il est probable qu'aucun autre dentiste canadien n'a servi la dentisterie aussi bien et aussi longtemps. Robert Arthur Rooney est né à Shelburne, Ontario, en 1890. Après avoir été reçu dentiste au Chicago College of Dental Surgery, il a commencé à exercer à Edmonton. Il exerça durant cinquante ans et sa clientèle comptait des familles jusqu'à la troisième génération.

Le docteur Rooney entra à la faculté dentaire de l'Université d'Alberta, en 1940. Il devint professeur de prothèse et directeur du service. Le 18 janvier 1960, quelques cent-

TABLEAU 2 Classement par province des coupons "Canadian High News" reçus au secrétariat.

Province	Nombre de réponses
Terre-Neuve	2
Ile-du-Prince-Edouard	—
Nouvelle-Ecosse	13
Nouveau-Brunswick	4
Québec	23
Ontario	77
Manitoba	11
Saskatchewan	21
Alberta	18
Colombie-britannique	19
TOTAL	188

cinquante amis se réunirent en son honneur pour lui présenter son portrait à l'huile. Cette peinture se trouve actuellement à la faculté dentaire.

Président de la Société dentaire d'Edmonton, en 1917, le docteur Rooney continua de servir comme président de son association provinciale et de son association nationale. En 1936, il devint secrétaire-registraire de l'Association dentaire d'Alberta et il occupa ce poste jusqu'à sa mort. Après avoir été président de l'Association dentaire canadienne, il fut président du comité des services auxiliaires. Ce comité n'eut pas d'autre président. Il fut le dentiste le plus fidèle aux assemblées du Conseil des Gouverneurs de l'A.D.C.; il assista à presque toutes les réunions depuis 1940, alors qu'il était délégué d'Alberta au Conseil.

Les occupations du docteur Rooney, à part la dentisterie, se concentraient sur la vie en plein air; ses distractions étaient la chasse, la pêche et le jardinage. Il fut président de l'Association de chasse et de pêche de la province d'Alberta. Nous offrons nos plus sincères condoléances à Madame Rooney et sa famille.

LA COMMISSION ROYALE TIENT DES SÉANCES PUBLIQUES

La Commission royale d'enquête sur les soins médicaux a tenu des séances publiques préliminaires, à Ottawa, le 27 septembre. Elle n'a pas accepté de mémoires écrits à ces premières assemblées.

Les organismes et les personnes intéressés à son travail ont été invités à offrir leur opinion sur les endroits où cette enquête devrait se faire, sur les problèmes qu'elle devrait étudier et sur les principes qui devraient la guider dans son travail. L'Associa-

tion dentaire s'est fait représenter à cette première assemblée.

La commission tiendra probablement ses premières réunions publiques régionales, cet automne, dans les provinces maritimes. Les organismes dentaires sont invités à soumettre une copie de leurs mémoires à l'A.D.C. pour que celle-ci les revise. Le docteur W. G. McIntosh préside un petit comité chargé de réviser, sur demande, ces mémoires ainsi que ceux que soumettra l'Association.

Le Corps dentaire royal canadien

NOUVEAUX OFFICIERS DU CORPS DENTAIRE

Dix nouveaux officiers dentistes ont été acceptés dans le Corps dentaire après l'obtention de leur diplôme.

Le capitaine M.A. Abramson, D.D.S., a reçu son diplôme à l'Université de Toronto et il a été affecté à la Région militaire de l'Est pour être employé au "Cornwallis". Bien que né à Montréal, il a passé la plus grande partie de sa vie aux Etats-Unis et il a fait les trois premières années de son cours de dentiste à l'Université de Pittsburgh.

Le capitaine H.W. Brogan, D.D.S., de Minto (N.-B.), diplômé de l'Université Dalhousie, a été affecté à Fort-Churchill.

Le capitaine M.N. Deyette, D.D.S., de Parry-Sound (Ont.), a reçu son diplôme de l'Université de Toronto et il a été affecté au Camp de Petawawa dans la Région militaire du Centre.

Le capitaine J. G. B. Dionne, B.A., D.D.S., de Montréal, a reçu son diplôme de l'Université de Montréal et il a été affecté à la Station de l'A.R.C., à Comox (C.-B.).

Le capitaine A. G. Garden, D.D.S., de Saskatoon et Rolling-Hills (Sask.), a reçu son diplôme de l'Université de l'Alberta et il a été envoyé à Calgary.

Le capitaine J. F. A. Marcil, B.A., D.D.S., de Montréal, diplômé de l'Université de Montréal, a été affecté à Montréal.

Le capitaine K. S. M. Mathers, D.D.S., de Mimico et Kitchener, a reçu son diplôme de l'Université de Toronto et il a été affecté à la Station de l'A.R.C., à Rockcliffe (Ont.).

Le capitaine A. L. Moran, D.D.S., de Port-Arthur, est diplômé de l'Université de Toronto et il a été affecté à la Station de l'A.R.C., à Downsview (Ont.).

Le capitaine R. J. Paturel, B.Sc., D.D.S., de Halifax, diplômé de l'Université Dalhousie, a été nommé à Fort-Churchill.

Le capitaine P. P. Prudhomme, B.A., D.D.S., de Saint-Jérôme (P. Qué.), diplômé de l'Université de Montréal, a été envoyé à Montréal.

AFFECTATIONS

Les affectations suivantes ont eu lieu récemment dans le Corps dentaire:

Le major F. D. Charman, qui était employé aux Casernes Griesbach à Edmonton, a été affecté à la 35^e Unité dentaire de campagne, en France.

Le major R. A. Fell, qui était au "Naden" à Esquimalt (C.-B.) a été affecté à la Station de l'A.R.C., à Goose Bay (Labrador).

Le major I. A. C. MacDonald, qui était attaché à la 35^e Unité dentaire de campagne en France, a été envoyé à Calgary.

Le major J. C. E. McDonald, stationné au Moyen-Orient, a été envoyé à Edmonton.

Le major F. M. Nesbitt, qui se trouvait à la Station de l'A.R.C., à Winnipeg, a été nommé à l'Ecole du génie militaire, à Vedder-Crossing (C.-B.).

Le major L. A. Richardson, qui se trouvait à la Station de l'A.R.C., à Namao (Alb.), a été envoyé à Winnipeg.

Le major E. J. C. Small, stationné à Oakville (Ont.), a été envoyé au Moyen-Orient.

Le major J. M. Smith, qui se trouvait à la Station de l'A.R.C. de Goose Bay, a été nommé à l'Ecole du Corps dentaire à Camp Borden.

Le capitaine F. C. Arpin, stationné à Fort-Churchill (Man.) a été envoyé au Moyen-Orient.

Le capitaine R. D. Bunt, qui était à la Station de l'A.R.C. à Winnipeg, a été envoyé au Moyen-Orient.

Le capitaine R. H. Headley, qui était employé à la Station de l'A.R.C., à Parent (P. Qué.), a été affecté à la 4^e Compagnie dentaire de campagne, en Allemagne.

Le capitaine H. K. Meisner, stationné au "Cornwallis" (N.-E.), a été affecté à la 35^e Unité dentaire de campagne, en France.

Le capitaine J. J. Y. Turcotte, qui se trouvait à la Station de l'A.R.C. à Goose Bay, a été affecté à la 35^e Unité dentaire de campagne, en France.

Le lieutenant-colonel L. G. Craigie de Kam-sack (Sask.) a été nommé commandant de la 35^e Unité dentaire de campagne avec le quartier général à Metz (France). Cette unité procure les soins dentaires à la 1^{re} Division aérienne de l'A.R.C. en Europe. Avant son départ, le lieutenant-colonel Craigie avait été pendant cinq ans instructeur en dentisterie opératoire à l'Ecole du Corps dentaire royal canadien.

Le lieutenant-colonel G. R. Covey, qui était commandant de la 35^e Unité dentaire de campagne en France, est entré en fonction comme sous-directeur des Services dentaires à Ottawa.

Le major G. E. Windsor, de Kamsack (Sask.), a complété ses trois années de service à la 35^e Unité dentaire de campagne et est revenu au Canada pour occuper le poste de premier officier dentaire à London (Ont.).

Le capitaine G.-I.-J. Bisaillon, de Capriol et Sudbury, a été affecté au Camp Shilo (Man.), après trois années de service avec la 4^e Compagnie dentaire de campagne, en Allemagne.

Le capitaine J.-F. Bégin, de Montréal, a été affecté à la Station de l'A.R.C. de Goose Bay, Labrador. Il était autrefois affecté à Québec.

Le capitaine J. F. Eadon de Shaftown (Angleterre) a été transféré de Fort Churchill à la Station de l'A.R.C. de Penhold (Alb.).

Le capitaine L. C. Gray d'Halifax (N.-E.) a été transféré de Calgary à Vancouver.

Le capitaine M. Petryk d'Atmore (Alb.) a été transféré de la Station de l'A.R.C. de Cold Lake (Alb.), à Calgary.

Le capitaine J.-C.-R.-R. Roy, de Québec, a été transféré de Montréal à la Station de l'A.R.C. à Parent (P. Qué.).

Le major E. D. Fraser, qui jusqu'à ces derniers temps dirigeait la clinique de la station de l'A.R.C. à Saint-Hubert, près de Montréal, a été affecté au Stadacona, à Halifax.

OFFICIERS DENTISTES AU MOYEN-ORIENT

Le capitaine F. G. C. Arpin, de Tracy, P. Qué., qui jusqu'à dernièrement était stationné à Fort-Churchill, vient d'être envoyé au Moyen-Orient pour y passer un an dans la Force d'urgence des Nations-Unies. Le capitaine Arpin a obtenu son diplôme de l'Université de Montréal en 1960.

Le capitaine R. Lanthier, de Sudbury, qui vient de terminer sa période de service au Moyen-Orient, a été affecté à la Région militaire du Centre, pour servir dans la 1^{re} clinique dentaire, à Ottawa.

LIBERATIONS

Les officiers dont les noms suivent ont obtenu leur libération au terme de leur période de service dans le Corps dentaire: Capitaine O. Chaikin, Capitaine J. G. G. Hébert et Capitaine E. S. Morrison.

UN ELEVE-OFFICIER DU CORPS DENTAIRE GAGNE LE TROPHEE DE L'INFANTERIE

L'élève-officier M. G. McCrae, de Port-Coquitlam, C.-B., étudiant de 2^e année à la faculté d'art dentaire de l'Université de l'Alberta, a gagné le trophée de l'Association de l'infanterie canadienne remis chaque année à l'élève-officier qui s'est le plus distingué durant la 1^{re} phase pratique de l'instruction militaire dispensée sous le régime du Programme d'instruction pour la formation d'officiers des forces régulières (R.O.T.P.).

LE MAJOR BRICK PREND PART AU CONCOURS DE LA DCRA

Le major J. C. Brick, de la Direction des Services dentaires à Ottawa, était l'un des concurrents au concours de la Dominion Rifle Association tenu au champ de tir Connaught, près d'Ottawa. Tireur émérite, le major Black a fait très bonne figure dans le classement final.

LISTE DES MEMBRES DE L'A.D.C.

On peut se procurer la liste des membres de l'Association dentaire canadienne dès maintenant à l'office central de l'association. La liste contient le nom et l'adresse des membres et des fonctionnaires de l'A.D.C. pour l'année 1961-62. Prix d'achat \$1.00.

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Nutrition and Fluoridation

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Most of what follows will be familiar to you. Nutrition can be related to dental caries and to some other dental problems in at least three ways:

1. Development of tooth structure; production of resistant or susceptible teeth.
2. Oral environment; composition of saliva; production of acid from carbohydrate in the mouth; health of gingival tissue.
3. Systemic environment.

In relation to tooth development evidence from experiments on animals shows that at least five food constituents are involved. These are: calcium, phosphorus, vitamin D, ascorbic acid and fluorine. Vitamin A may, also, be involved. So far as evidence on humans is concerned, some of these are involved definitely. There is no doubt that intakes of calcium, phosphorus, vitamin D and fluorine have effects on development of teeth in humans. While evidence regarding ascorbic acid is not clear cut, I would be surprised if it does not have an effect on tooth formation in humans. In practice, this means that a pregnant woman

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should have adequate intakes of calcium, phosphorus, vitamin D and ascorbic acid in addition to other essential nutrients. It means, also, that infants and children should have adequate intakes of all these nutrients and should have an optimal supply of fluorine. With the exception of fluorine, all needed nutrients will be obtained if the advice formerly called Canada's Food Rules and now named Canada's Food Guide is followed.

In recent weeks there have been a number of unwise statements about fluorine. We know that the evidence of the effectiveness of supplying fluorine for the decrease in dental caries is clear cut and that there is no evidence of any harm resulting from an optimal intake. In a few years there may be available information as to the value of increasing the fluorine content of table salt, of adding sodium fluoride to milk, or of supplying sodium fluoride in tablets. At present, such evidence is not available but there is sufficient information to justify increases in the amount of fluorine in the water supply of a number of municipalities. It would be unfortunate if children in Toronto and in other cities in Ontario were deprived of the established benefits of the fluoridation of water supplies. An impression is given sometimes that fluoridation of water means the addition of something alien. It should be realized that water is never free of fluorine and that considerable water has insufficient to be of real value. We have all heard the statement that sodium fluoride should be added to soft drinks because children drink them; most of us would be glad to discourage children from using soft drinks because their sugar content is not beneficial to children and may increase dental caries.

The most widely accepted explanation of dental caries is that oral bacteria cause the production of lactic acid from carbohydrate; the lactic acid attacks teeth, producing caries. There are several ways of lessening the production of acid and the induction of caries. One is to restrict the use of sugar and some other carbo-

hydrates. This has several advantages. Some of the popular foods rich in sugar have little other nutritive value and are a waste of money when finances are limited. Sweet foods depress hunger and, taken shortly before a meal, can keep children from eating suitable amounts of foods needed for health. All of the undesirable effects of sweet foods should be made clear to parents.

Another procedure to lessen the production of acid is to keep the mouth clean. It is said that the teeth should be brushed after every meal. Under many circumstances this is not possible and I am not sure that children should be told to use a tooth brush frequently unless instruction and training in proper brushing procedure are provided. Rinsing of the mouth may be better and safer. Of course, rinsing with water may be of little value unless it is done thoroughly. It should be noted, also, that mouth rinsing should not be done on the street or in the hallway of a building; it should be done in a washroom.

A relation between the composition of saliva and its ability to neutralize acid is likely. Saliva contains phosphates. One of the first research projects in which I was involved was about the possible relation of the phosphorus content of saliva and the occurrence of dental caries. My colleague, F. I. Eldon, and I found a definite relation: children with a high-phosphorus saliva had few carious lesions. There is a minor interest in this at present. In Scandinavian studies, the administration of phosphates to children has markedly reduced the incidence of caries. Studies on this subject are under way in the United States. It could be that the extra phosphate given to children appears in the saliva, at least, to some extent. If this happened, the ability of the saliva to neutralize acid would be increased. At present, there is no evidence to support this conjecture; I hope it is investigated.

Some years ago, Lady Mellanby demonstrated the value of vitamin D in improving the teeth of children. Vitamin D is,

of course, needed for the development of healthy bones. Children of any age should have 400 units of vitamin D a day. Suitable amounts can be purchased in any drug store in Ontario, and probably elsewhere in Canada, for not more than two cents a day.

Two Canadian foods are excellent sources of calcium. These are milk and cheese. Children up to the age of twelve should have a pint of milk a day. This will furnish sufficient calcium for the development of teeth and, also, of bones.

No special program of nutrition is needed for dental health. All of the needed nutrients are required for purposes other than dental health. It would be more effective if everyone concentrated on one set of advice. The best advice regarding food selection in Canada is Canada's Food Guide.

Some concern has been felt that fluoridation is not more effective. Suggestions have been made that the action of fluorine may be related to the ratio of calcium to phosphorus in the food intake. Our department undertook a study of the relation of food intake to the action of fluorine a year ago. Through the co-operation of the medical officer of health and the school inspector, the study was done in Stratford, a city which has had an optimal amount of fluorine in the water supply for many years. The study was limited to children who had been born and who had lived all of their lives in Stratford. Miss Jill Armstrong carried out the study. With the co-operation of teachers, records of food intakes for seven days were obtained from children in grades 6, 7 and 8. The staff of the Dental Division of the Department of National Health and Welfare carried out a dental survey on all children and supplied to us the *df* and DMF scores for each child. Total food intakes for the week were averaged per day and rated for adequacy in terms of the amounts advised in Canada's Food Rules. Suggestions of relations between the incidence

of caries and the intakes of vitamin D, of milk and of sweet foods were noted. Children having adequate supplies of vitamin D and of milk had lower average DMF scores than did those with inadequate intakes. There was a slight difference in average DMF scores between children with low intakes of sweet foods and those having generous intakes. In general, the situation with regard to food use is roughly similar in Stratford to that which has been found in recent years for children of the same age in Toronto. However, more children have satisfactory milk intakes in Stratford than in Toronto. Over half of the Stratford children had low intakes of citrus fruit with consequent small supplies of ascorbic acid. Sixty per cent of the Stratford children had limited intakes of vegetables other than potatoes. Nearly three-fourths of Stratford children had little or no vitamin D, but 97 per cent of children in Stratford had generous intakes of meat (our most expensive food).

I hope that all of you have read the report of the committee appointed by the government of Ontario to inquire into and report upon the fluoridation of municipal water supplies. May I remind you of some of the conclusions which the committee stated were unanimous:

"1. We are convinced that the incidence of dental caries in Ontario is of such magnitude that it must be regarded both as a serious and as a major public health problem and that adequate treatment of dental caries in the whole population is beyond the resources of the dental profession.

"2. We are also convinced that the treatment of dental caries alone will not control or reduce the ultimate incidence of tooth decay.

"3. We realize the importance of good oral hygiene but at the same time recognize the limitations of a good oral hygiene program in our society.

"4. We also realize the importance of proper nutrition in the reduction of the incidence of dental caries but acknowledge, with some degree of astonishment and with much concern, the inadequacy of over-all nutrition in Ontario."

As you know, the government of Ontario has passed legislation to permit municipal councils to authorize adjustment of the fluorine content of water supplies. Unfortunately, the legislation requires the council of a municipality to hold a referendum, if presented with a petition signed by ten per cent of the electors. This leads to an interesting situation in Metropolitan Toronto: a petition signed by ten per cent of electors in seven of the municipalities has forced a referendum for the whole Metropolitan group. I can well imagine the type of statements against fluoridation which will be made by opponents during the few weeks before the referendum.

You will have noted that one of the conclusions of the committee on fluoridation was about the need for constructive efforts to improve nutrition in Ontario. The government of Ontario employs one nutritionist and there has been no indication of an improvement in this situation. Nova Scotia, a province with much less territory and population than Ontario, and much less affluent, employs at present eight full-time nutritionists.

I am going to outline to you the type of program which I think should be instituted to improve dental health:

1. Adjustment of the fluorine content of water supplies so that all will contain at least one part per million of fluorine.
2. Education to promote good oral hygiene.
3. Adequate dental services for all.
4. A good program of maternal and child health.
5. Effective educational efforts to improve food habits.

RÉSUMÉ

Les recherches ont prouvé d'une façon évidente que le fluor a une influence sur la réduction de la carie et qu'il est sans effet nocif, s'il est consommé aux proportions indiquées. L'avenir nous dira la valeur du fluor ajouté au sel de table, au lait ou pris sous forme de comprimés.

*Nous n'avons pas actuellement ces don-
nées, mais nous possédons celles des
bienfaits du fluor ajouté à l'eau de cer-
taines municipalités. On a parfois l'im-
pression que l'addition de fluor à l'eau
consiste à y mettre un corps étranger.
L'eau contient toujours du fluor, mais
souvent en quantité insuffisante pour
qu'il ait un effet sur les dents. On sug-
gère, en certains milieux, que le fluor
soit mis dans les liqueurs gazeuses que
boivent les enfants; les dentistes n'aiment
pas que les enfants consomment ces
breuvages, car ils contiennent du sucre
qui est préjudiciable à la santé des en-
fants et qui favorise la carie dentaire.*

*La commission d'enquête sur la fluora-
tion de l'eau des aqueducs nommée par
le gouvernement d'Ontario fait, dans son
rapport, les déclarations suivantes:*

*1. Nous sommes persuadés que l'inci-
dence de la carie dentaire en Ontario est
telle que cette affection doit être con-
sidérée comme un problème sérieux de
santé publique et que la profession den-
taire seule est incapable de traiter adé-
quatement la population.*

*2. Nous sommes aussi d'avis que le
traitement de la carie dentaire ne peut
à lui seul, contrôler ou abaisser son
incidence.*

*3. Nous réalisons l'importance d'une
bonne hygiène dentaire, mais nous savons
aussi que notre société ne peut pas s'ap-
pliquer toutes les règles de cette hygiène
dentaire.*

*4. Nous réalisons l'importance d'une
bonne nutrition pour abaisser l'incidence
de la carie dentaire, mais nous constatons
avec surprise, mais aussi avec anxiété,
que la population d'Ontario n'a pas la
nutrition qu'elle devrait avoir.*

*Le gouvernement d'Ontario a passé
une loi permettant aux municipalités
d'ajouter du fluor à l'eau de leurs aque-
ducs. Malheureusement, la loi prévoit la
tenue d'un référendum, avant d'adopter
cette mesure, si seulement dix pour cent
des voteurs le demande en requête écrite.
Cette clause a créé une situation étrange
dans le Grand Toronto: une requête signée*

par dix pour cent des citoyens de 7 municipalités a exigé la tenue d'un référendum dans tout le Grand Toronto. On peut s'imaginer les arguments qui seront ap-

portés par les adversaires de cette mesure durant les quelques semaines précédant le référendum.

150 College Street

A Reappraisal of the Orthodontist as Specialist

WENDELL L. WYLIE,* D.D.S., M.S., San Francisco, California

In accepting the pleasant responsibility of giving the George Grieve Memorial Lecture, I am keenly aware of the honour which goes with it. In adopting today an outlook similar to his, I hope I may come off as successfully as he did in his lifetime. You will remember that Dr. Grieve called for a reappraisal of orthodontic objectives with respect to treatment, and that he challenged some of the dogma of his day. For much of Dr. Grieve's career he took a stand which evoked apprehensive responses from his colleagues; yet today his ideas are regarded as straight common sense. He pleaded for a greater concern for the conservation of anchorage and recommended the use of extraoral force for that purpose; he insisted as early as 1926 that the removal of four bicuspids was necessary in a substantial number of orthodontic patients.

If I wanted to take a belligerent stand today on the subject of orthodontic treatment, I would almost have to go directly counter to George Grieve's ideas, so thoroughly accepted have they been. But my

call for a reappraisal is directed not at what the typical orthodontist does today. Rather, I am unhappy with what is being done to provide an adequate number of orthodontists, and at some of the assumptions and prejudices in dental education today. I like to think that Dr. Grieve and I have one thing in common: he took a stand against wishful thinking in treatment; I oppose the role of wishful thinking when it affects the education and regulation of dental specialists.

In Dr. Grieve's day orthodontists were most anxious to believe that they could stimulate the jaw bones to grow so that 32 teeth could be accommodated, no matter how dim the prospects seemed at the outset. Patients were required to wear elastics running from one dental arch to the other; the dentist hoped that the desired results would be achieved in the arch of choice, and he ignored the equal and opposite force in the other. In fact, one did not use the word "force"; it had vaguely unbiological connotations. Instead, one talked a good bit about "nature", or sometimes even "Mother Nature". Never was any objective evidence brought to bear on these matters; this was to come later.

Thanks to Dr. Grieve and others who have contributed to the improvement of the clinical practice of orthodontics, the

Grieve Memorial Lecture presented at the annual meeting of the Canadian Dental Association, Saskatoon, June 5, 1961.

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public has a keener appreciation of what can be done through orthodontic therapy. At the same time there has been a phenomenal population increase. With these factors acting together, demand seriously outstrips supply in many communities, because there simply are not enough orthodontists. By way of illustration, take my own state of California. In 1950, 50,000 young people graduated from high school; we know that in 1975 high school graduates will number 440,000. You may be sure that a substantial number of these are going to want orthodontic care in the intervening years. Yet on the Pacific coast, until last September, only the University of Washington and the University of California have been preparing graduates for the specialty. The shortage is by no means limited to the Pacific coast. On a nationwide basis, there are insufficient opportunities for studying orthodontics in a university atmosphere.

What reasons for this are most often cited? We have heard that private practice is more remunerative than teaching. True, but we should not forget that orthodontics, with its precise records such as cephalometrics, makes it possible for people with a creative turn of mind to conduct clinical investigations and write significant papers in their own offices. Several individuals are doing precisely this today. But these two factors are not enough to account for the situation.

Because there is a serious shortage of orthodontists today which is going to become worse, and because this shortage stems primarily from a lack of educational opportunities, dental education should accurately assess the problems that exist, and seriously re-examine some of its old attitudes. In this process, three points should be considered: First, what is our real need in terms of numbers of orthodontists and how best can we meet it at the same time maintaining quality? Secondly, what are the characteristics of the typical dental student, what sort of instruction is best for him, and how may we best make provision for the exceptional student? Finally, what are the

established facts concerning the training of dental specialists, as opposed to the fancied hopes?

The graduate or postgraduate course, requiring two academic years or more after the dental degree, is regarded by some as having come so close to perfection that we should now view it as the only suitable program. The basic plan has much to commend it, but some of the incidental features have been so venerated over the years that they might now be respectfully re-examined.

Dean Robinson of Kansas City has recently commented upon orthodontic education.¹ He accurately describes the true function of the graduate school, which is scholarship for its own sake, and intimates that would-be orthodontists who demand a Master's degree along with training in the specialty might be regarded as status-seekers. No doubt about it, but he could have gone a step further. He might also have mentioned that a number of dental deans are unwilling to launch an orthodontic course unless it can be a graduate program leading to a degree, with every candidate preparing a thesis. While dean Robinson has declared his intent to offer at Kansas City two kinds of programs, one of which simply trains a man in orthodontics and does not provide a degree, some other deans feel that to do this is to put the school in the second echelon. This seems to me as much status-striving on the part of the deans as is the example previously cited.

A critical survey of the situation must deal not only with the academic program leading to a degree, but also with the subject matter which supplements technical and clinical instruction.

The discussion might well be launched by offering two different definitions of education. One is supplied by dean Sognnaes of the University of California School of Dentistry at Los Angeles who makes a distinction between training and education by saying that education is "knowledge beyond one's immediate needs".

The second definition was supplied some time ago by a cynical graduate student in orthodontics who said that education was "the systematic wasting of other people's time".

Of the two definitions, I much prefer dean Sognaes', but if we are to go in for a little critical self-examination, perhaps we should pay some attention to the second definition as well.

Let us consider first what the basic sciences may do for the training of a specialist in dentistry. To raise this point at all, one risks being put in a category with those who see dentistry — with real anti-intellectual zeal — in purely mechanical terms.

By defining education as "knowledge beyond one's immediate needs", dean Sognaes properly excuses himself from supplying a utilitarian reason for exposing prospective dentists to the basic sciences. In contrast with this forthright approach, there have been over the years too many far-fetched examples of direct application, and unconvincing contentions that avid students of these subjects would somehow be better clinicians. Contrasting sharply with these arguments is the statement of a professor of physiology in an eastern medical school that he could supply in four lectures all of the information in physiology specifically applicable to the practice of medicine; he added that three would suffice for dentists.²

The basic sciences do play a significant role in the training of anyone in the health sciences, and this role consists of three parts. First of all they provide a general background which is indispensable to anyone involved in the maintenance of health. This background helps one to understand the implications of what he is doing, thereby setting a profession apart from a trade. The facts gained as a part of this background may or may not be immediately applicable.

When properly taught, the sciences can acquaint one with the orderly processes of the scientific method. This attitude of constructive skepticism can carry over into the office for the evaluation of clini-

cal procedures. It can also be a great comfort at dental meetings, where too frequently one is asked to give credence to the incredible. Unfortunately it is so much easier for the teacher to hold students accountable for the inert facts of the course, that somehow they never quite grasp how these facts were learned through the use of the scientific method.

The second role of the basic sciences could be called "intellectual venture capital". Just as our more enlightened corporations today devote a portion of their funds to truly basic research, indifferent as to whether or not the findings are immediately useful, so any profession in the healing arts should realize that the really long-term gain will come from the pursuit of basic knowledge without regard to immediate application. There can be little doubt that scientific study on the part of proper people will provide the most promising solution to the real problems of dentistry, through the development of preventive measures.

If we seek to maintain dentistry at a high professional level, we should never downgrade these two important, though non-utilitarian, aspects of instruction. At the same time, we should remember that the undergraduate dental curriculum devotes a fair amount of time to the sciences. Can we realistically maintain that the specialist requires "education beyond one's immediate needs" any more than does the general practitioner?

The third role is the pragmatic one of direct application. Although some people exaggerate this out of proportion, the basic sciences do afford some material immediately pertinent to the specialty field which was perhaps not relevant to undergraduate instruction. Certainly this should be taught, but who should teach it?

Should the practical aspects of physiology, for example, be taught by a physiologist to orthodontic graduate students? Would our physiologist really know enough about orthodontics to attempt this? He may know some, but will he know enough to fill a three-unit course

full of this utilitarian material? And finally, he is going to be a busy physiologist, for he has as well the graduate students in oral surgery, periodontics, endodontics, prosthodontics, oral pathology, paedodontics and public health dentistry. He would like very much to put all of these graduate students into one academic melting pot and teach them in one afternoon out of the week. This will not work, however, for while he is talking about the practical aspects of orthodontics, all the other students are looking out of the window.

If there really are all these practical applications of the basic sciences to orthodontics, the professor of orthodontics ought to know enough about them to teach them in his own course himself. And so it would seem that if we were to rely upon the physiologist, the biochemist and the other academicians in basic science, we should assign to them the two other roles already mentioned, the providing of background and "intellectual venture capital".

As much as we should esteem the role of "intellectual venture capital", this has little relevance at a time when the primary purpose is to educate a dentist in a specialty field totally strange to him. It should be remembered that so little orthodontics is taught at the undergraduate level that a graduate course in orthodontics is in reality not a graduate course at all, but a fresh beginning. Therefore it is hard to imagine such a student significantly expanding the horizons of the specialty field at this stage in his development.

Examining another facet of the problem, we should turn to the characteristics of the typical dental student, at the same time recognizing that in their number there are exceptional ones and wherever possible we should treat them as individuals. We have all heard the dentist described as a practical person, one interested in the tangible, in straightforward technical procedures, as one inclined to be impatient with speculative and theoretical matters. This down-to-earth account when

given in appropriate context can be made to seem quite attractive. I should like now to quote from Heist,³ a social scientist who did a research study entitled "Personality Characteristics of Dental Students," and observed:

"... It would be fairly conservative to say that the very best predental and dental education could not make provocative teachers and contributive researchers out of the vast majority of those entrants in dental schools across the nation. The ... motivation ... (is) not likely to lead to experimentation and risk-taking in the realm of the unknown. ... Good practitioners and technical specialists can readily be educated and trained, as is undoubtedly the case, from the student clientele as pictured here. But from the standpoint of the potentialities for research, some dental schools, if not all, will need to change their recruitment and selection procedures in order to enrol a more scholarly student body".

It seems to me that Heist is saying here essentially what was said before in more flattering terms, except that now we probably do not like his observations very well. Yet if we are to be the realists we often say we are, I think we should concede that if one description is fairly accurate, the other one must be also. In turn, if this conclusion is a reasonable one, then our selection procedures for the limited number of opportunities to study orthodontics today are poorly suited to the product. Admission procedures in force today are not designed to pick the most promising to serve the public as orthodontists, but rather to deliver to the graduate school promising researchers.

The rejoinder to this is, of course, that since there is such a limited number of places, we should assign them to those who have the best prospects of carrying on research in the field. Before accepting this argument, one should take a critical look. Examination of the research efforts of the best young graduate students makes one believe that the program should be maintained. Examination of the total output of certain isolated schools also gives a pretty good record. But this is

not an objective evaluation of what the overall picture is across the country. To make such an appraisal, I suggest you attend what I call the "Piano Recital." This irreverent reference is to the Tuesday afternoon session of the American Association of Orthodontists, when we are urged to provide an audience for young men reporting research efforts for the first and — in all probability — the last time. One is about as likely to encounter a real researcher here as one is to hear a Van Cliburn at the annual recital of Miss Throckmorton's piano students.

What one hears at this session are 15-minute reports of theses written by orthodontic graduate students. Actually, very few of the Masters' theses are ever published. Those who continue in creative work after receiving their degree are even fewer.

Since this research role which seems on an a priori basis to be a laudable one, has not been really achieved, why not consider a partial revision of orthodontic education which would provide practitioners in greater numbers?

No criticism of orthodontic graduate students is intended when it is remarked that (1) they are usually not entranced by a second exposure to the basic sciences, particularly when it is a review of material previously learned, and (2) they seldom show a real flair for research. Their motivation is commendable, but quite different from that of university graduate students in other disciplines. The pragmatist seeking to specialize in some field of medicine or dentistry is constantly looking for applications; the scholar simply has an urge to learn.

An insufficient number of schools are offering specialty training in orthodontics, and in those who do the number admitted to a class is often small. This, I think, can be traced in large part to the notion that orthodontics must be taught on a graduate basis if it is to be taught at all. For many schools it is difficult enough to find capable orthodontists willing to teach just the clinical aspects. If one imposes the added burden of further requiring

them to supervise so-called research by people whose interest in it is exceedingly transient, one drastically reduces the potential number of dental teachers. If the specialty course is to be given under the aegis of the graduate school, then there must be a substantial number of courses of real didactic worth, as opposed to technical and clinical courses. Some schools, I suspect, have difficulty finding science teachers to take on this role besides the one of undergraduate teaching, when it means further inroads on their already limited time for research.

THE UNDERGRADUATE MAJOR IN ORTHODONTICS

After such a barrage of negative comments it is pleasant to report that we have had for nearly 30 years at the University of California a positive program which deserves examination in the light of these remarks.⁴ We call it the "undergraduate major in orthodontics." During the four years required to obtain the D.D.S. degree, students enrolled in this program can get at the same time a thorough preparation for the specialty of orthodontics. Dentists in a position to evaluate at firsthand the services rendered by our graduates concede that they are very good orthodontists. Those who view it from a distance more often than not do so with horror. It is not hard to understand why; we affront the technically inclined dentist by deleting clinical experience in crown and bridge prosthodontics and denture prosthodontics, although only in these two subjects. Those who are more enamoured of biology than artificial teeth might be sympathetic to us on this score, except for the fact that we turn out orthodontists without a second exposure to their favourite subjects. This leaves very few dentists who might rally to our cause.

I must admit that there are some other objections which I cannot answer. One is that since medicine requires its specialists to prolong their training as much as seven years beyond the M.D. degree, does not our program reflect poorly on dentistry

by producing a specialist during the undergraduate years? Even some orthodontists are disturbed by the image we are creating, since other dental specialties are insisting on two or more years beyond the dental degree. To these anxiety-ridden souls, I can only say this: If the pursuit of excellence were your true purpose, you would get my undivided attention. But if you are pursuing merely the appearance of excellence, I find your concern not very interesting. But let us get back to bread-and-butter dentistry.

Students majoring in orthodontics do get technical courses in both crown and bridge prosthodontics and denture prosthodontics, and in every other respect they complete all of the requirements of the conventional dental curriculum. Thus it cannot be said that our undergraduate program is devoted exclusively to orthodontics.

Apart from those who believe that one cannot really become an orthodontist until he has constructed five upper dentures, five lower dentures, and 15 units of bridgework, there are those who think our program should be banished because another school might imitate it. Actually this plan has never been urged on any other school, perhaps because we are singularly lacking in missionary zeal. Just the same I should like to point out some of its inherent advantages and how it avoids some of the problems to be found in a graduate program.

The most obvious advantage comes to the man who graduates in this curriculum; he gets into his specialty field two years earlier. From an important educational point of view, he gets a better training in orthodontics, first of all because this major is spread out over three years. Any material learned over a longer period of time is more effectively learned than when it is compressed into a shorter period. This advantage is particularly significant in orthodontics, since it takes time to treat orthodontic patients. Our students spend their last two years in the clinic and finish many of the cases which they started themselves. No problems

whatever are created with respect to the basic sciences. Our students are orthodontic majors only when their classmates are in denture prosthodontics and crown and bridge prosthodontics. Accordingly, they take the basic science courses once on an undergraduate basis, along with the other dental students. It is true that there are some things about embryology and growth, about genetics in relation to facial malformation, and about biostatistics, not to be found in the regular dental course. This material, however, is taught in the didactic courses by orthodontic teachers themselves.

An advantage to the program which is less obvious is that it lends itself easily to increases in class size. In recent years we have stepped up the number by 50 per cent, taking nine students for the major instead of six. Increasing the size of the class can be done easily because we teach on the undergraduate basis. There is no need for provision of seminars, for demands upon basic science teachers, or for meeting the requirements of the graduate school. Consequently, all we would need to step up the size of our class is an additional number of clinical instructors. Our didactic teachers would simply move to a larger classroom.

Another advantage we enjoy is a reliable selection procedure. We do not have to select nine strangers from a bewildering array of transcripts; because the orthodontic major starts in the second dental year, we rely substantially on the applicants' performance in the first dental year, right in our own school. This may not be the best proving ground in the world, but it is one we fully understand. The selection of the best nine from 20 to 30 applicants has curiously furnished our critics with a bit of ammunition; since the record with respect to board certification, etc. can scarcely be overlooked, they slyly imply that we do as well as we do only because we siphon off the best students.

In stating explicitly that our first purpose is the training of truly competent specialists in orthodontics, this is not

meant to imply that no research is possible. Research is not a required exercise with us, but exceptional men who wish to carry it out are encouraged to do so and often given financial support.

Let us imagine for a moment that several dental schools had an orthodontic major program in force instead of only the solitary one in San Francisco. For every student enrolled, the public would gain two additional years of orthodontic services, simply because these men graduate as orthodontists two years earlier. Each of the men so enrolled would save several thousands of dollars otherwise invested in two extra years of training. If several such courses existed, we could abandon the pretence that in order to be a specialist one should also be a research worker, and instead seek to identify those who are really qualified for research and have a genuine interest in it. On this highly selective basis we could provide adequate financial support for the further pursuit of knowledge in institutions of higher learning. This would work far better than the present shotgun approach whereby every orthodontic graduate student is presumed to be a research worker until proven otherwise. If but half the dental schools in the United States today had this type of orthodontic major, there would be produced each year as many orthodontic specialists as there are students presently enrolled in graduate programs. It would seem to me to be the easiest and most straightforward way to meet our needs for really competent specialists.

This is not to say that this ought to be the only method whereby orthodontists are trained. First of all, the program makes no provision for men who went into general practice and then changed their mind. Consequently, more schools should be doing what dean Robinson recommends — offering postgraduate programs for the primary purpose of training specialists.

There are a few orthodontic departments in North American dental schools doing such an excellent job at the gradu-

ate level that I would not quarrel with their wish to devote their energies exclusively to this program. I venture to say that their accomplishments would be even more phenomenal if they had to direct in research only those with genuine aptitude and interest in it, who had already received the fundamentals of clinical orthodontics.

It is to these few schools that I should like to send the best of our graduates — defining "best" for the moment as those with adventuresome minds — for further education as orthodontic teachers and researchers. There should be provided for them adequate financial support such as the stipends awarded to postdoctoral fellows in the basic sciences. Under the conventional graduate program, one cannot be sure that an applicant for such support really wants to teach, or would just like to be paid while learning to specialize.

But I look with quizzical bewilderment upon dental schools whose research records are virtually barren, which nevertheless declare that they will not start a program in orthodontics until it can be a graduate program leading to a Master's degree. At the University of California we are not in the least ashamed of the fact that our first objective is to produce clinicians. Not only would we invite comparison with the clinical performance of our graduates, but we would also invite comparison of the research results produced by men selected for this function.

Many of the platitudes and prejudices concerning the training of dental specialists were formulated in the depression years of the thirties when the demand for dental care was so low that there was no particular enormity in withholding dental practitioners from the public. Now the situation is entirely different and the profession has the obligation to determine whether or not manpower needs are being wasted.

Some commendable records were made by graduate students when the program was first on trial. They reflected credit upon the plan of education, and did much to give graduate education the cachet it

enjoys today. But we should keep in mind that these were special people who voluntarily chose a long-term course of university instruction at a time when they could have taken a proprietary course lasting for a few weeks, or apprenticed themselves to an experienced practitioner. On the basis of their serious performance we should not anticipate that by requiring men to enter orthodontics via this route and this route only, the same results will be achieved.

Just 99 years ago, Abraham Lincoln had this to say in his message to the United States Congress:

"The dogmas of the quiet past are inadequate to the stormy present. The occasion is piled high with difficulty, and we must rise with the occasion. As our case is new, so we must think anew, and act anew. We must disenthrall ourselves, and then we shall save our country".

While I find the quotation irresistible, I do not yet equate solving the problems of orthodontic education with saving the country. But if we do not undertake this problem realistically, we may belatedly find that it has been tackled for us by someone else. People are going to want orthodontic care in increasing numbers, and it is up to us to decide whether they shall obtain it from people adequately prepared for the task.

This, then, is a plea for a calm reappraisal, suspension of preconceived judgments, and the application of objective criteria. Teachers should have reasonable latitude in designing curricula. The immediate needs of technical and clinical proficiency should be adequately met, with treatment planning developed to the highest possible level in the time available. By all means, the basic sciences should be offered, as means of developing intellect, as providing possible glimpses of new advances — but do not advocate them on the basis of enhancing clinical skills unless you are prepared to prove the point. If higher education proceeds on false premises, we are in bad shape indeed.

RÉSUMÉ

L'auteur explique le curriculum "d'orthodontie majeure pour les étudiants sous-gradués," qui est en force à l'Université de Californie, depuis une trentaine d'années.

Ces étudiants, durant les quatre années requises pour obtenir leur D.D.S., reçoivent en même temps une préparation complète pour commencer leurs études en orthodontie.

Le principal avantage de ce système est que cet étudiant commence à exercer cette spécialité deux ans plus tôt. Il reçoit une meilleure formation en orthodontie parce que ce programme s'étend sur une période de trois ans et parce que les connaissances acquises au cours d'une période de temps plus longue sont plus solides que si elles étaient acquises dans une période plus courte. Cette considération a plus d'importance en orthodontie parce que les traitements prodigués dans cette spécialité sont plus longs. Les sciences de base ne sont pas négligées, car, ces étudiants sont en orthodontie pendant que leurs condisciples sont en prothèse, en couronnes et ponts, etc. Un autre avantage de ce système est qu'il se prête à des classes plus nombreuses; il offre, de plus, une option plus précoce.

La faculté ne choisit pas les candidats pour ce cours au hasard, car ce cours en orthodontie majeure commence en deuxième année et le dossier de l'élève, en première, lui sert de références.

L'auteur se demande si les écoles dentaires qui refusent d'avoir un cours en orthodontie autre qu'un cours gradué ne font pas erreur. Le principal objectif de l'Université de Californie est de former des cliniciens.

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A Technique for Double Alginate Impressions

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In the construction of full and partial dentures, an accurate cast is essential. Alginate impression materials will, with proper handling, produce this desired result. In every technique, the materials used have their natural inherent advantages and disadvantages. When the directions of the manufacturer are followed, these advantages of alginates are apparent:

1. The powder and water easily combine into a smooth, creamy mix stiff enough to stand alone in the tray.

2. The 72 degree water gives ample time to mix, fill the tray and place in position. Three minutes for regular and one and one half minutes for the quick set type.

3. The temperature of the material does not shock sensitive teeth.

4. It has the ability to copy the finest detail.

5. Its natural elasticity allows removal from undercuts.

6. It is compatible with the tissues of the mouth and has no objectionable taste.

7. The cast may be poured directly into the impression.

The disadvantages of alginates are as follows:

1. They will not absorb saliva as plaster does. It leaves defects in these areas: (a) at the gingival line, (b) at stop seats, and (c) at the posterior portion of the hard palate.

2. Air trapped on the palatal surface and in the peripheral areas causes large defects.

3. They will easily flow past the posterior border of the upper tray onto the soft palate, with objectionable results.

4. Inaccuracies are produced in the palatal areas of many upper impressions because the weight of the impression material allows distortion after initial contact with the tissue is made.

5. A large, strong uncontrolled tongue causes defects in the distal-lingual areas of lower impressions.

6. Edentulous impressions are usually badly overextended on the buccal and labial borders.

7. Due to the large water content in the mix, evaporation and shrinkage cause distortion of the impression.

With a few changes in the old procedure and with the addition of one new step, an impression technique for full and partial dentures can be used that retains all of the advantages and elim-

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inates the disadvantages characteristic of alginates.

FULL DENTURE IMPRESSIONS

Trays.—It is the function of the tray to carry the alginate to place where the alginate alone takes the impression.

The new perforated full denture trays are well suited for this technique. The flanges are short and they are well shaped, especially the lower tray in the posterior region. Solid aluminum trays may also be used but must be well trimmed so that they do not at any time touch any of the reflected tissue causing overextension. These short flanges are important as they allow the excess alginate to flow over and around to the other surface, thus securing the alginate to the smooth tray.

The posterior border of the upper tray should never extend onto the soft palate but should stop even with or slightly short of the junction of the hard and soft palates.

Upper Impressions.—The selected tray is placed in the mouth. When held approximately one-eighth of an inch from the crest of the residual ridge, it should follow the general contour, be short of the reflected tissue, and the posterior border should not extend onto the soft palate.

For small and medium sized mouths, one measure of alginate is sufficient. Two measures are used only in extremely large mouths. The alginate is well mixed and applied evenly to the tray. The tray is placed in the mouth but not pressed to place. The free hand is held in an inverted position. The index and second fingers are extended and separated and placed in the muco-buccal fold, one on either side of the residual ridge. The patient is told to close the mouth slightly. This relaxes the buccal and labial tissues which can then be raised by the fingers of the free hand. With the whole area in view, the correct position of the tray is accomplished by first making contact at the posterior border. The anterior

portion is raised and guided into position. This motion forces the excess alginate to the buccal and labial and not over the posterior border as is usually done. The two fingers of the free hand are removed, allowing the buccal and labial tissues to mould the alginate in the mucobuccal fold areas but preventing large air bubbles from destroying the continuity of the impression periphery.

The thumb and index finger are placed on the nose of the patient and with a pinching action, the nostril openings are closed. The patient is then instructed to force air against the closed nostril. This action makes the tissue of the soft palate move downward and forward, forcing any soft alginate to move in the same direction. This movement serves a dual purpose as it marks the junction of the hard and soft palates in the impression and eliminates gagging in sensitive patients by removing the presence of any impression material from the soft palate when it returns to its normal position.

When the impression material has set, it is removed from the mouth. Examination should then be made of the posterior palatal surface to see if the glands in this area have been milked, leaving depressions and mucus on this surface. If so, this is removed with a scraper. With a sharp knife, the impression material distal to the junction of the hard and soft palates is cut away. All undercuts inside the buccal and labial borders are removed. These borders are reduced by one to two millimetres. Except in extreme cases, where an excessive amount of saliva is present, the set-up alginate should never be moistened. If washing is absolutely necessary, the impression is thoroughly dried with air before proceeding.

A second mix of the same amount and consistency is placed in this alginate tray. The identical procedure is repeated as for the first insertion but in addition, the tray may now be more firmly seated and the buccal and labial areas muscle-trimmed. As this trimming is accomplished, the excess material is directed

down and under the tray so as to securely lock this second layer to the first layer.

Upon removal, the surface of the impression should appear more dense and show greater detail than a simple one layer impression. This is especially true of the palate. Support gained by the presence of the first layer prevents distortion of the final impression. There should be no mucous depressions on the palate since the glands were emptied by contact with the first layer. Allowing a three minute setting time for regular mix alginate, the whole procedure should average about eight minutes time.

Lower Impressions.—The greatest difficulty in taking a lower alginate impression is the inability of the average patient to control the movements of the tongue. In order to alleviate this condition, it is necessary to add a strip of utility wax to the distal-lingual border of all trays. This wax should extend the tray at least a quarter of an inch in the posterior half of the lingual surface and on the distal surface to the crest of the ridge. This wax is strong enough to displace a relaxed tongue and allow the alginate to remain in the tray.

The lower tray filled with alginate is centered over the lower ridge but does not quite touch the tissue. The patient is instructed to raise the tongue and relax it so that it may be supported by the tray as it is lowered into position. The buccal and labial tissues are pulled away to allow any possible trapped air to escape. They are then raised and brought toward the centre of the mouth, causing the excess alginate to settle on top of the tray. The tongue is not moved. The impression is removed and all undercuts are cut away from the tissue surface. All overextensions, especially past the external oblique ridges in the distal-buccal areas are also removed.

A second mix is made and placed in the alginate tray. The same procedure used in the first insertion is followed except that more vigorous trimming of the buccal and labial areas is indicated.

Upon examination, the tissue surface will be dense, the minute detail copied and the peripheral outline well defined.

PARTIAL DENTURE IMPRESSIONS

An alginate impression is taken in the usual manner. All undercuts and overextensions are removed. The imprint areas made by the remaining teeth are removed with knife and scraper. All depressions are enlarged one eighth of an inch in all directions and undercut. This allows easy replacement in the mouth without interference or guidance by the remaining teeth. A second layer of alginate is applied over the entire area and the final impression taken. The result will be a dense, smooth, accurate impression of all tooth surfaces and stop seats. The gingival tissue will be sharp and clean with no salivary bubbles. The tissue surface will be dense, free of voids and will have no salivary or mucous depressions.

CONCLUSIONS

Every dentist and dental student has taken impressions repeatedly in the same mouth until the desired result is attained. The double layer alginate impression will eliminate the problems encountered in this field. Some of these problems are entrapped air, saliva and mucus which cause major defects in vital areas.

Forced air pressure against the closed nostrils depresses the soft palate, marking its junction with the hard palate. This action also prevents the gagging sensation experienced by many patients by removing contact with excess impression material when the soft palate returns to its normal position.

Errors caused by a large or uncontrolled tongue may be eliminated by the addition of utility wax to the distal-lingual flange of the lower tray.

All casts should be poured immediately after impressions are taken.

RÉSUMÉ

L'auteur décrit une technique pour obtenir une double empreinte en alginate pour la prothèse complète et partielle.

Cette technique conserve tous les avantages des empreintes en alginate: reproduction des détails infimes et élasticité du matériel prévenant les retentions; elle élimine certains inconvénients, comme les imperfections de l'empreinte à la voûte palatine causées soit par le poids du matériel qui favorise les déformations, soit par les bulles d'air logées entre l'alginate et la muqueuse; elle prévient aussi dans les cas de prothèse complète les chevauchements trop con-

sidérables observés avec ce matériel à empreinte du côté buccal et labial.

On prévient les déformations de l'empreinte causées parfois par une langue trop grosse ou par une longue trop mobile en ajoutant de la cire distalement aux rebords linguaux du porte-empreinte.

On détermine la limite postérieure du palais dur en fermant les narines et en demandant au patient de souffler par le nez; cette pression d'air abaisse le palais mou. On prévient aussi de cette façon les nausées auxquelles sont sujets certains patients, car, quand le palais mou revient dans sa position normale, il cesse d'être en contact avec le matériel à empreinte.

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Longitudinal Study of Growth of the Face and Cranium during Preschool Years

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This paper deals with the longitudinal growth of the face and cranium of the individual child in infancy and preschool years. Previously a closely related study on the growth of face and skull from early childhood to adult age, on a group of individuals enrolled in the Child Research Council, Denver, Colorado, was conducted.¹ However, in the previous group the data on the first five years of life were inadequate. Hence, a necessity to study that period of life was greatly felt. The present study fulfils that necessity to a great extent. Facial growth

studies during the early years of life are lacking. This may be partly due to the difficulty in obtaining cephalometric radiographs on infants. The longitudinal growth studies, their necessity and advantages have been discussed by the various investigators in the field of growth and development.^{2,3,4,5,6}

PRESENT STUDY

The data for the present study are derived from the serial cephalometric radiographs taken at the Child Research Council, Denver, Colorado. The details of the procedure of taking the cephalometric radiograph have previously been described in detail.^{7,8}

This study was carried out at the Child Research Council, University of Colorado School of Medicine, and supported in part by grants from the Commonwealth Fund of New York.

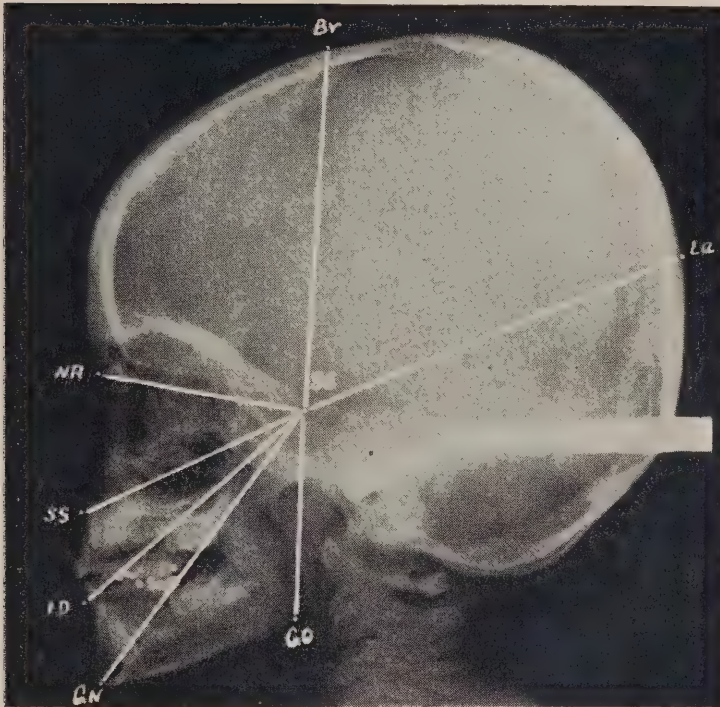


FIGURE 1 The two cranial dimensions, Se-La (sella-lambda), Se-Br (sella-bregma) and five facial dimensions, Se-Na (sella-nasion), Se-Ss (sella-subspinale), Se-Id (sella-infradentale), Se-Gn (sella-gnathion) and Se-Go (sella-gonion) on the lateral cephalometric radiograph considered in the present study.

Seven measurements on the lateral cephalometric radiographs of 15 boys and 15 girls were taken. The age range covered by the present study is from one month to 5 years 9 months of age. Each child in the study had his first cephalometric radiograph taken at the age of one month, the second at the age of 9 months, and the successive ones at one year intervals, so that each individual child has seven lateral cephalometric radiographs. All the subjects in this study were born in Denver of middle class socio-economic group of north European ethnic origin. All the children can be described as having a good occlusion and none had any orthodontic treatment.

MEASUREMENTS

Seven measurements on each lateral cephalometric radiograph, starting from the centre of sella turcica and extending to the periphery of bony outline were taken. The following seven measurements were used (Figure 1):

1. Sella-lambda (Se-La)
2. Sella-bregma (Se-Br)
3. Sella-nasion (Se-Na)
4. Sella-subspinale (Se-Ss)
5. Sella-infradentale (Se-Id)
6. Sella-gnathion (Se-Gn)
7. Sella-gonion (Se-Go)

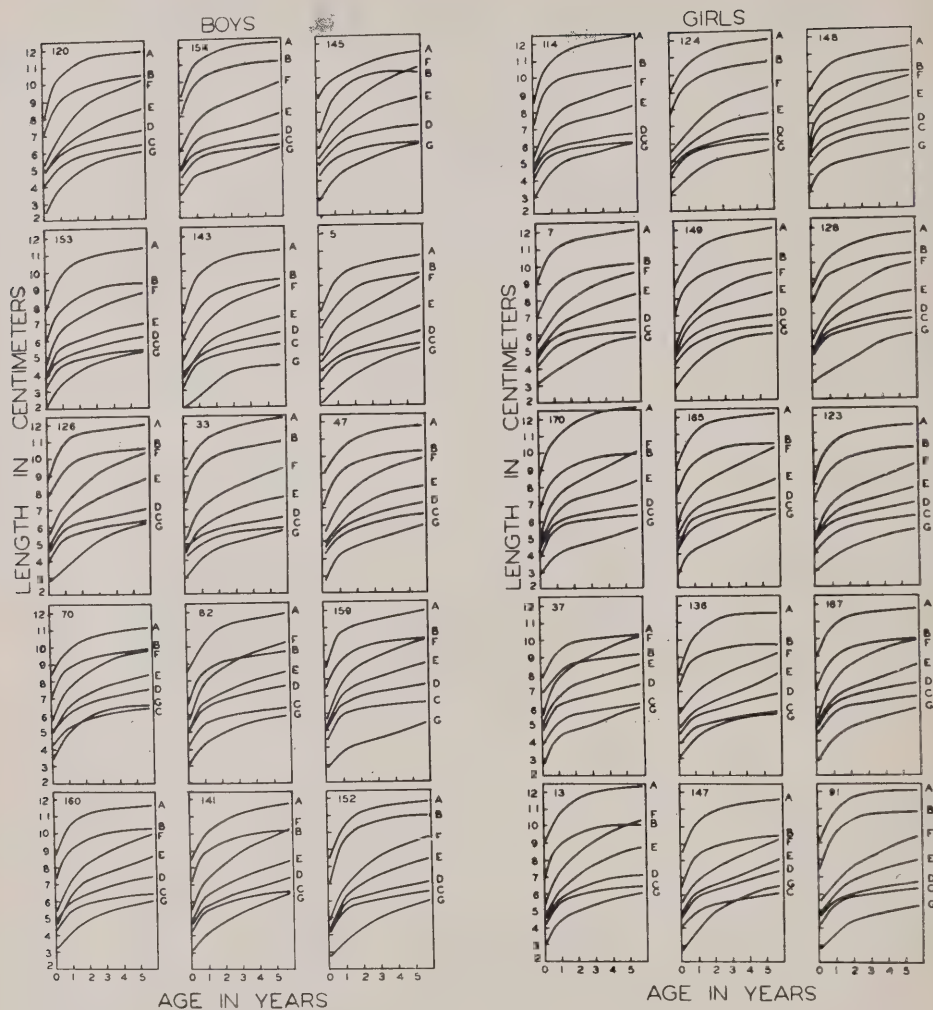


FIGURE 2 Growth curves of cranial and facial dimensions of 15 boys and 15 girls. A. sella-lambda; B. sella-bregma; C. sella-nasion; D. sella-subspinale; E. sella-infradentale; F. sella-gnathion; G. sella-gonion.

In lateral cephalometric radiographs taken at the age of one month and sometimes at 9 months, the point of maximum convexity on the alveolar bone of the mandible was considered as infradentale point. The measurements were taken directly on the radiographic film using a

steel ruler with 20 graduations per centimetre. The landmarks located by inspection were marked with a sharp point. Similar technique was used in the previous investigation. Meredith et al. mentioned that this technique increases the accuracy of the measurement.⁹

INDIVIDUAL GROWTH PATTERN

Figure 2 represents the growth curves of all the individuals taking part in this study. The cranial dimensions, Se-La and Se-Br present themselves with a very rapid rate of growth during the first two years of life. Beyond this period the growth in these dimensions is relatively very small, with the exception of two individuals, Nos. 170 and 145, who show

considerable amount of growth in sella-lambda dimension throughout the period studied. These growth curves present a typical neural type of growth.

Sella-nasion dimension has a type of growth which can be described as between neural and skeletal type.

The four facial dimensions, sella-subspinale, sella-infradentale, sella-gnathion and sella-gonion show a very rapid rate of growth. These attain a considerable amount of growth during the first two

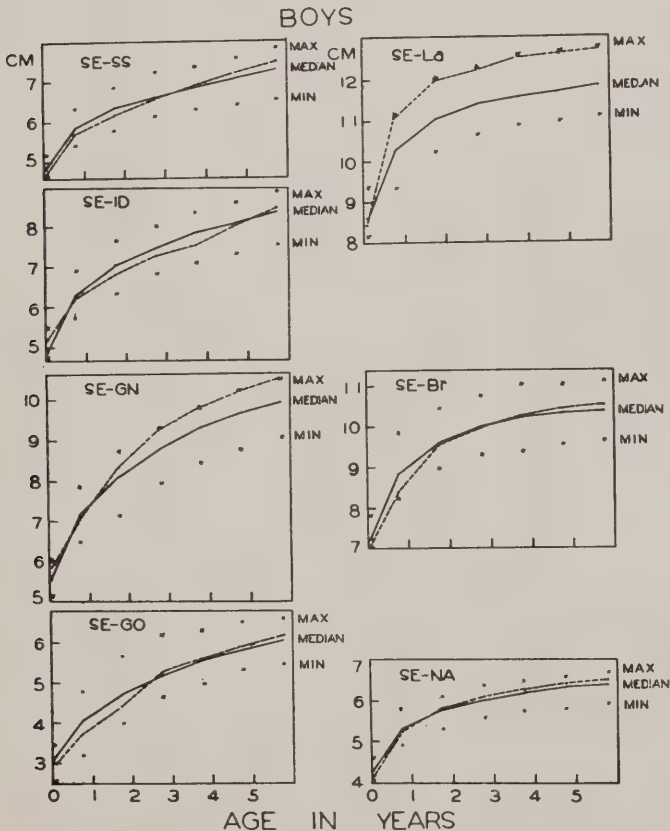


FIGURE 3a Percentile graphs for cranial and facial dimensions with maximum, minimum, and median. Various cranial and facial dimensions of boys (dotted lines) plotted on percentile standards for each dimension.

years of life and continue to grow at a rapid rate up to 5 years and 9 months. There is, however, a considerable variation in the growth of various dimensions of different individuals. Particular attention is drawn toward the growth curves of sella-gonion dimension, which present a different picture. There is a progressive upward trend of the growth curves, pro-

ceeding almost in a straight line. This can be seen by inspecting the growth curves of sella-gonion dimension of cases Nos. 7, 128, 125, 5, and 152. This was found to be true in the majority of the children in this study to a certain extent. None of the facial growth curves show any growth spurt during this period.

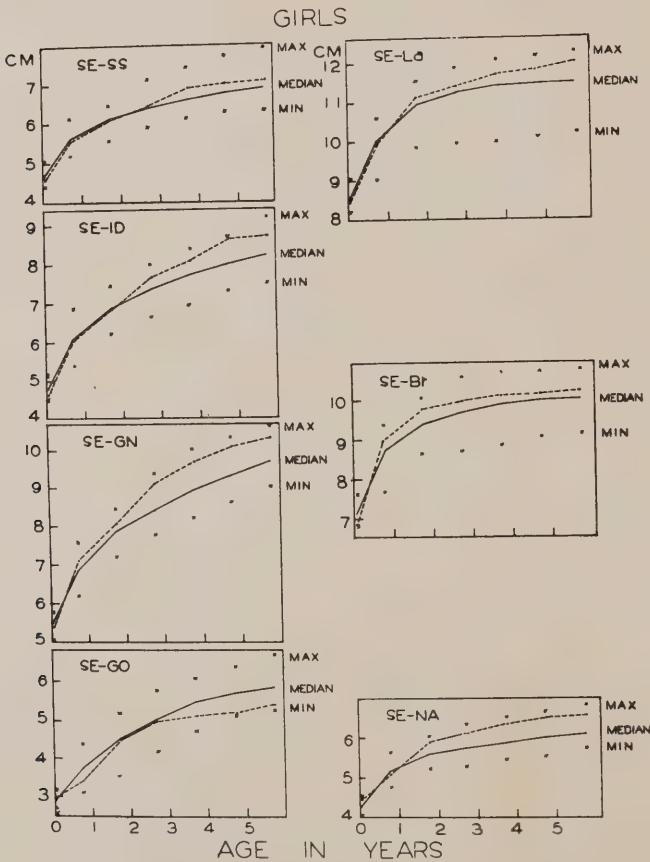


FIGURE 3b Percentile graphs for cranial and facial dimensions with maximum, minimum, and median. Various cranial and facial dimensions of girls (dotted lines) plotted on percentile standards for each dimension.

COMPARISON OF THE INDIVIDUAL WITH THE GROUP

In the previous study it was found that the cranial and facial dimensions have a tendency to maintain their relative position in the group from 5 to 18 years of life.¹ An effort was made in this study to find out whether the same holds true during the preschool years. Figure 3 shows the various dimensions, selected at random from different individuals, plotted on the percentile graphs of both sexes. It can be seen that there is considerable fluctuation during the early growth period, especially in sella-gnathion and sella-gonion dimensions.

SEX DIFFERENCE

An attempt was made to find out at what stage in life the sex differentiation in growth of the face and skull starts. Figure 4 represents the average growth curves of absolute measurements of boys and girls. The average growth curves of the girls (broken lines) are smaller than the average growth curves of the boys (solid lines) all along, from one month to 5 years 9 months of age.

A statistical analysis to test the sex difference was also made. The absolute gain in centimetres in growth of the facial and cranial dimensions, measured

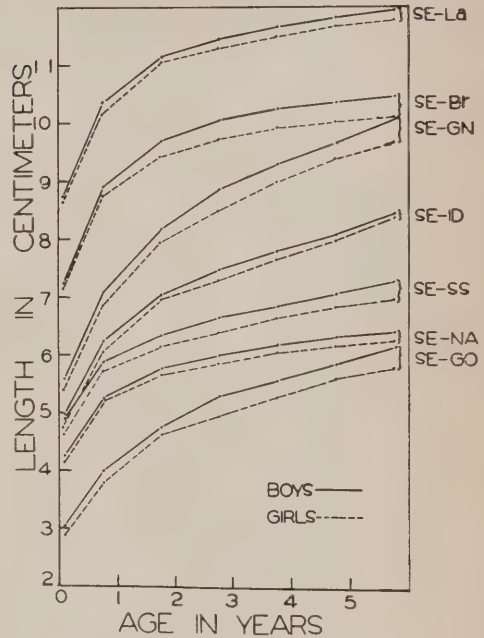


FIGURE 4 Average growth curves of cranial and facial dimensions of boys and girls.

from the lateral cephalometric radiographs, was examined on all the children in the study. A mean for each dimension was computed separately for boys and girls. The mean of each dimension for

TABLE 1 Absolute gain in centimetres at age one month in growth of cranial and facial dimensions of 15 boys and 15 girls measured from lateral cephalometric radiographs.

Dimension	Mean Boys	Mean Girls	Variance Boys	Variance Girls	Difference + S.E.	Critical Ratio	95 per cent Confidence Interval of the Difference in Means	
Sella-lambda	8.721	8.609	.074	.099	$+.112 \pm .124$	.90	— .14 to .37	Not significant
Sella-bregma	7.233	7.142	.094	.086	$+.091 \pm .162$	.56	— .24 to .42	Not significant
Sella-nasion	4.245	4.136	.036	.053	$+.109 \pm .064$	1.70	— .02 to .24	Not significant
Sella-subspinale	4.886	4.613	.092	.054	$+.273 \pm .107$	2.55	.05 to .49	Significant
Sella-infradentale	4.907	4.738	.086	.087	$+.169 \pm .122$	1.39	— .08 to .42	Not significant
Sella-gnathion	5.579	5.376	.075	.069	$+.203 \pm .103$	1.97	— .01 to .41	Not significant
Sella-gonion	3.003	2.883	.063	.039	$+.120 \pm .074$	1.62	— .03 to .27	Not significant

TABLE 2 Absolute gain in centimetres at age nine months in growth of cranial and facial dimensions of 15 boys and 15 girls measured from lateral cephalometric radiographs.

Dimension	Mean Boys	Mean Girls	Variance Boys	Variance Girls	Difference + S.E.	Critical Ratio	95 per cent Confidence Interval of the Difference in Means	
Sella-lambda	10.338	10.156	.114	.103	$+.182 \pm .154$	1.18	— .13 to .50	Not significant
Sella-bregma	8.897	8.730	.102	.116	$+.167 \pm .155$	1.08	— .15 to .48	Not significant
Sella-nasion	5.275	5.213	.076	.064	$+.061 \pm .100$	0.61	— .14 to .27	Not significant
Sella-subspinale	5.911	5.712	.088	.061	$+.199 \pm .107$	1.86	— .02 to .42	Not significant
Sella-infradentale	6.236	6.038	.082	.110	$+.198 \pm .138$	1.43	— .09 to .48	Not significant
Sella-gnathion	7.109	6.868	.112	.108	$+.241 \pm .155$	1.55	— .08 to .56	Not significant
Sella-gonion	3.997	3.787	.102	.104	$+.209 \pm .146$	1.43	— .09 to .51	Not significant

TABLE 3 Absolute gain in centimetres at age one year nine months in growth of cranial and facial dimensions of 15 boys and 15 girls measured from lateral cephalometric radiographs.

Dimension	Mean Boys	Mean Girls	Variance Boys	Variance Girls	Difference + S.E.	Critical Ratio	95 per cent Confidence Interval of the Difference in Means	
Sella-lambda	11.125	11.004	.142	.128	$+.121 \pm .191$	0.63	— .27 to .51	Not significant
Sella-bregma	9.693	9.391	.106	.103	$+.303 \pm .148$	2.05	— .0008 to .61	Not significant
Sella-nasion	5.774	5.657	.041	.067	$+.117 \pm .079$	1.48	— .04 to .28	Not significant
Sella-subspinale	6.330	6.128	.071	.067	$+.202 \pm .098$	2.06	.00 to .40	Significant
Sella-infradentale	7.027	6.968	.067	.096	$+.059 \pm .117$	0.50	— .18 to .30	Not significant
Sella-gnathion	8.179	7.936	.075	.092	$+.243 \pm .119$	2.042	— .001 to .49	Not significant
Sella-gonion	4.682	4.523	.112	.085	$+.159 \pm .141$	1.13	— .13 to .45	Not significant

boys was then compared with the similar mean for girls. The results of this are given in Tables 1 to 7. There is a separate table for each of the seven ages studied in this group. No statistically significant difference in the cranial dimension of sella-lambda is found between the two sexes throughout the period studied. Sella-bregma dimension shows a significant difference at 4 years 9 months and 5 years 9 months of age. Sella-nasion dimension did not show any significant sex difference except at 2 years 9 months of age. Dimension sella-subspinale shows

significant sex difference at all ages used in the study except at 9 months. Sella-infradentale dimension does not show significant difference at any time during the period under consideration. Sella-gnathion and sella-gonion dimensions show a significant sex difference from 2 years 9 months through 5 years 9 months of age. Investigations conducted by Davenport show that girls have smaller skull dimensions than boys. This difference between the sexes is present from birth.¹⁰

TABLE 4 Absolute gain in centimetres at age two years nine months in growth of cranial and facial dimensions of 15 boys and 15 girls measured from lateral cephalometric radiographs.

Dimension	Mean Boys	Mean Girls	Variance Boys	Variance Girls	Difference + S.E.	Critical Ratio	95 per cent Confidence Interval of the Difference in Means	
Sella-lambda	11.487	11.296	.112	.142	$+.191 \pm .182$	1.05	— .18 to .56	Not significant
Sella-bregma	10.024	9.708	.099	.120	$+.316 \pm .156$	2.03	— .004 to .64	Not significant
Sella-nasion	6.014	5.848	.042	.066	$+.166 \pm .078$	2.13	.01 to .33	Significant
Sella-subspinale	6.628	6.387	.071	.067	$+.241 \pm .098$	2.46	.04 to .44	Significant
Sella-infradentale	7.475	7.329	.066	.089	$+.146 \pm .111$	1.32	— .08 to .37	Not significant
Sella-gnathion	8.848	8.491	.062	.094	$+.357 \pm .113$	3.16	.13 to .59	Significant
Sella-gonion	5.303	4.927	.080	.092	$+.375 \pm .121$	3.10	.13 to .62	Significant

TABLE 5 Absolute gain in centimetres at age three years nine months in growth of cranial and facial dimensions of 15 boys and 15 girls measured from lateral cephalometric radiographs.

Dimension	Mean Boys	Mean Girls	Variance Boys	Variance Girls	Difference + S.E.	Critical Ratio	95 per cent Confidence Interval of the Difference in Means	
Sella-lambda	11.667	11.493	.114	.157	$+.175 \pm .195$	0.90	— .26 to .57	Not significant
Sella-bregma	10.231	9.907	.111	.120	$+.323 \pm .164$	1.97	— .01 to .66	Not significant
Sella-nasion	6.191	6.033	.041	.068	$+.158 \pm .080$	1.98	— .01 to .32	Not significant
Sella-subspinale	6.849	6.626	.072	.066	$+.223 \pm .098$	2.28	.02 to .42	Significant
Sella-infradentale	7.815	7.639	.075	.104	$+.177 \pm .128$	1.38	— .09 to .44	Not significant
Sella-gnathion	9.309	8.978	.079	.107	$+.331 \pm .133$	2.49	.06 to .60	Significant
Sella-gonion	5.574	5.289	.071	.085	$+.285 \pm .111$	2.57	.06 to .51	Significant

SUMMARY AND CONCLUSIONS

A growth analysis of the seven facial and cranial measurements on the lateral cephalometric radiographs of 15 boys and 15 girls was conducted. The growth period studied was from one month to 5 years 9 months of age. The growth pattern of the two cranial measurements, sella-lambda and sella-bregma, is of typical neural type. The four facial dimensions of sella-subspinale, sella-infradentale, sella-gnathion and sella-gonion show a skeletal

type of growth. However, there is some difference in the growth curves of sella-gonion dimension from the rest of the facial dimensions during the first two or three years in certain individuals. None of these dimensions show any childhood growth spurts during the period of this study.

The most noteworthy finding of the present study is that the sex differences in the growth could be demonstrated at a very early stage of development.

TABLE 6 Absolute gain in centimetres at age four years nine months in growth of cranial and facial dimensions of 15 boys and 15 girls measured from lateral cephalometric radiographs.

Dimension	Mean Boys	Mean Girls	Variance Boys	Variance Girls	Difference + S.E.	Critical Ratio	95 per cent Confidence Interval of the Difference in Means	
Sella-lambda	11.796	11.679	.107	.140	$+.116 \pm .177$	0.66	— .25 to .48	Not significant
Sella-bregma	10.333	10.015	.102	.104	$+.319 \pm .153$	2.08	.005 to .63	Significant
Sella-nasion	6.317	6.175	.047	.068	$+.142 \pm .082$	1.73	— .03 to .31	Not significant
Sella-subspinale	7.051	6.817	.073	.071	$+.235 \pm .102$	2.30	.03 to .44	Significant
Sella-infradentale	8.091	7.991	.073	.104	$+.100 \pm .127$	0.79	— .16 to .36	Not significant
Sella-gnathion	9.672	9.380	.075	.115	$+.292 \pm .138$	2.12	.01 to .57	Significant
Sella-gonion	5.851	5.596	.072	.091	$+.255 \pm .116$	2.20	.02 to .49	Significant

TABLE 7 Absolute gain in centimetres at age five years nine months in growth of cranial and facial dimensions of 15 boys and 15 girls measured from lateral cephalometric radiographs.

Dimension	Mean Boys	Mean Girls	Variance Boys	Variance Girls	Difference + S.E.	Critical Ratio	95 per cent Confidence Interval of the Difference in Means	
Sella-lambda	11.928	11.779	.102	.143	$+.149 \pm .176$	.85	— .21 to .51	Not significant
Sella-bregma	10.469	10.065	.140	.117	$+.404 \pm .183$	2.21	.03 to .78	Significant
Sella-nasion	6.400	6.260	.047	.065	$+.140 \pm .080$	1.75	— .02 to .30	Not significant
Sella-subspinale	7.218	6.950	.077	.078	$+.268 \pm .110$	2.44	.04 to .49	Significant
Sella-infradentale	8.397	8.295	.093	.093	$+.102 \pm .131$	.78	— .17 to .37	Not significant
Sella-gnathion	10.008	9.675	.091	.112	$+.333 \pm .144$	2.31	.04 to .63	Significant
Sella-gonion	6.094	5.762	.074	.088	$+.332 \pm .115$	2.89	.10 to .57	Significant

RÉSUMÉ

L'auteur a entrepris, à l'aide de radiographies céphalométriques latérales, une étude de sept mensurations faciales et crâniennes chez 15 garçons et 15 filles.

La période de croissance utilisée dans ces recherches s'étendait d'un mois à cinq ans et neuf mois.

Le tracé de croissance de deux points du crâne, la selle turcique, point lambda et point bregma est de type franchement neural. Les quatre dimensions faciales de la selle subspinale, infradentale, gnathion

et gonion indiquent une croissance de type osseux. Cependant, il y a des différences dans les courbes de croissance de la dimension de la selle gonion des autres dimensions faciales de certains sujets, durant les premières deux ou trois années. Aucune de ces dimensions ne montre de poussée soudaine de croissance durant le temps pris pour cette étude.

La conclusion la plus remarquable de ces recherches est qu'elle a démontré que la croissance, selon les sexes, est différente dès les premiers stades de l'existence.

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CASE REPORTS

An Unusual Propensity for Odontogenic Cyst Formation

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Odontogenic cysts are not uncommon. They are seen in a myriad of sizes and locations in the human jaws. Usually asymptomatic until they get to be of considerable size, they may nevertheless cause substantial destruction of bone. The very nature of the dental apparatus and its formative elements, including the reduced enamel epithelium and Hertwig's epithelial root sheath, supply ample epithelial cells which may, under a given set of circumstances, develop into a dental cyst. Just what these circum-

stances are have not yet been determined with supporting evidence but interesting theories have been advanced in this regard. Although not lethal in character, these cysts do require surgical attention because of their tendency slowly to increase in size at the expense of the surrounding bone.

The following case report is interesting from two viewpoints. First, it represents the simultaneous occurrence of two different types of odontogenic cyst in the same jaw. Second, a propensity for odon-



FIGURE 1

Figure 1, above and Figure 2, right showing an osteolytic lesion of the mandible in the symphyseal region just to the right of the midline. Patient aged 8 years.

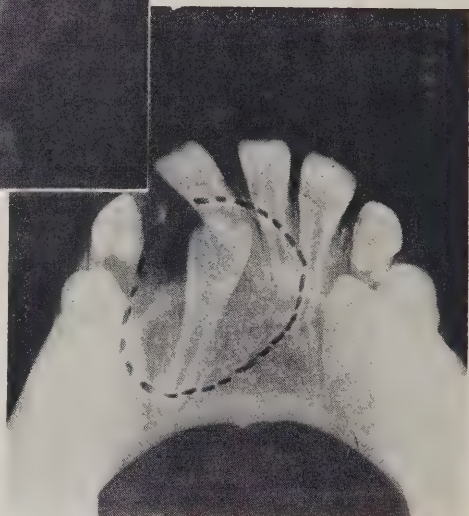


FIGURE 2

togenic cyst formation on such a large scale in such a young individual is unusual. The case here reported includes both the dentigerous and primordial variety of dental cysts.

FIRST EPISODE

History and Examination. — The first hospital records relative to this patient's pertinent problem are dated April, 1954 when she was eight years of age. The patient had been essentially well with no complaint but serial radiographs were taken on the advice of the school physician who thought the child's head was too large.

No skull, pituitary or large bone disorder was found but a cyst was noted "in the left cheek bone". There was an unerupted tooth in this area.

The functional enquiry was negative except for the occurrence of frequent jaw "noises" lately and nocturia.

Physical examination revealed a pale girl who appeared rather large for her age but well nourished. Her head was prominent with widely spaced eyes and some prominence of the brow. The face appeared angular. Eye examination revealed a horizontal nystagmus. There was a thoracic deformity consisting of a prominence over the left anterior chest region. The left shoulder tended to be higher than the right. Both the lower edge of the liver and spleen were palpable according to the examiner's notes. In the mouth the teeth were widely spaced. No oral tenderness could be elicited.

The mother was 36 and the father was 35 when the patient was born. There was one female sibling two years older. No history of familial disease was present. The mother claimed her health had been good during her pregnancy which had terminated in a normal delivery with a twenty-hour labour. The birth weight was 9 lbs. 1 oz. The teeth had started to erupt at the age of six months. She had walked at seventeen months and

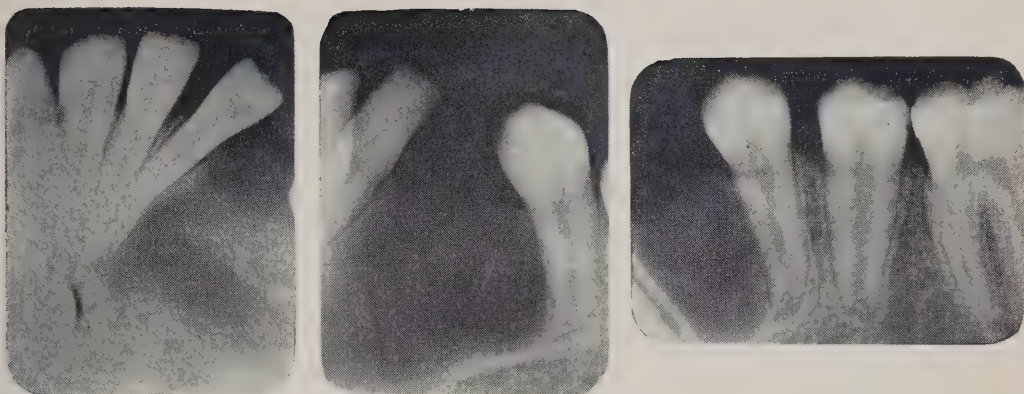


FIGURE 3 Apparent recurrence of cyst seen in Figures 1 and 2. Patient aged 12 years.

talked at the "average" age. She had had all of the usual childhood diseases.

A urinalysis at this time was within normal limits. A closer investigation by the attending oral surgeon revealed that the cyst in the left cheek bone described by the mother in the history-taking was actually present in the right, anterior portion of the mandible (Figures 1 and 2).

Operation. — On April 28, 1954, the mandibular cyst which was present and involving the right central and lateral incisors was enucleated in hospital under general anaesthesia. The operation report included the following information: "... The cystic tissue was seen to arise from the imbedded and impacted permanent lateral and cuspid. It was deemed advisable to remove these to determine completely the removal of the cystic mass. These teeth were elevated easily out of their bony sockets and the defect then left by the removal of the teeth and the enucleation of the cystic lining was approximately a fifty-cent piece in diameter ..."

The microscopic pathology report read as follows: "A number of sections were taken through the small portions of tissue and they show a rather densely fibrotic wall in which some haemorrhagic extravasation is present and an occasional small spicule of very early osseous formation. In some areas a well defined lining of squamous epithelium is noted which, however, in others is lost by erosion with underlying lymphocytic infiltration. There is no evidence of any malignancy." A diagnosis of dentigerous cyst of the mandible was made.

The patient's convalescence was uneventful and over the ensuing months the bony

defect healed and filled in slowly by second intention.

SECOND EPISODE

In March, 1958 she was seen again regarding a questionable recurrence in the original operative site. Radiographs confirmed the presence of an osteolytic lesion resembling a cyst (Figure 3). Accordingly, on April 18, 1958 this lesion was enucleated.

The microscopic pathology report read as follows: "Sections through portions of a cyst wall show it to be composed of dense fibrous tissue and to be lined by a uniform appearing stratified squamous epithelium. On the outer surface which is irregular, there are small vascular channels and there is a scattering of lymphocytes. There is no evidence of malignancy." Diagnosis of a radicular cyst was made.

Postoperative appointments were made regularly until December, 1958 for purposes of irrigation and observation. A radiograph of the operative area at this time revealed good bony regeneration and no evidence of recurrence or residual cyst.

THIRD EPISODE

On January 12, 1959 the patient's mother telephoned to say that her daughter had experienced a swollen upper lip over the weekend. Upon examining the patient she volunteered the information that her maxillary gingivae were sore but that she had no toothache. She had also noted a bad taste from "something draining." Her maxillary right buccal gingiva was erythematous and



FIGURE 4 Note osteolytic lesions of the maxilla in January 1959, ten months after the radiographs in Figure 3 were taken.

tenderness was localized in the bucco-gingival fold opposite the second molar on this side. Upon palpating the gingival crevice on the buccal aspect of this tooth the fine instrument disappeared into a deep pocket and a moderately clear to somewhat amber exudate escaped. This tooth was slightly mobile.

Full mouth dental radiographs revealed the absence of both maxillary third molars with extensive osteolytic processes in their place. Both permanent maxillary cuspids were unerupted. The right one had a large osteolytic lesion surrounding its crown while the left one, which was situated higher, was associated with a massive multilocular osteolytic lesion involving the entire left side of the maxilla from the midline to the second molar (Figures 4, 5, 6). The clinical impression was that we were dealing with four odontogenic cysts—two primordial types in the third molar regions and two dentigerous types involving the cuspids.

On February 11, 1959, the patient was admitted to hospital. Blood chemistry studies

revealed the following data: calcium 10.5 mg. per cent, phosphorus 4.3 mg. per cent and alkaline phosphatase 13.1 Bodansky units. The white blood cell count was 6,000 per cubic mm. with a normal differential. The urinalysis was within normal limits. The haemoglobin was 11.5 Gm per cent.

Operation. — On February 13, the patient was brought to the operating room where a general anaesthetic was administered. With the patient situated in a supine position on the operating table she was prepared and draped in the usual sterile manner. Double, wet throat-packs were positioned. The initial incision was made in the left tuberosity region and mucoperiosteal flaps were reflected both laterally and medially exposing an ill-defined cavity with no clearly discernible lining membrane. A specimen of this tissue was removed and submitted for frozen section reading. The pathologist reported granulation tissue, some connective tissue and an occasional islet of what looked like epithelial



FIGURE 5



FIGURE 6

Figures 5 and 6 also show osteolytic lesions of the maxilla in January 1959, ten months after the radiographs in Figure 3 were taken.

cells. An attempt was made to curette the soft tissue from this cavity. The operative field was then changed to the right cuspid region where, after reflection of a suitable mucoperiosteal flap, a large dentigerous cyst was exposed containing the maxillary right cuspid. The cyst lining enucleated cleanly and the tooth was delivered without difficulty. An absorbable gelatin dressing (*Gelfoam*) was inserted and the wound was sutured with multiple 0000 black silk sutures. The operative field was then transferred to the maxillary right tuberosity region where another crestline incision was made. The mucoperiosteal flaps were reflected and again no specific, definitive lining could be enucleated. The cavity seemed to extend the full height of the maxilla to the floor of the orbit. The cavity was packed with a length of one-inch vaseline gauze. A covering securing suture was placed to keep the pack in position. The next operative site was the maxillary left cuspid region. Utilizing a modified Caldwell-Luc incision an appropriate mucoperiosteal flap was reflected again exposing a cyst-like lining which was enucleated. The contained cuspid was easily

delivered. This cavity was very large, extending from the midline posteriorly to the tuberosity region where one could visualize its communication with the initial cystic defect. It had pushed the antrum posteriorly and superiorly until it was almost completely obliterated. The superior wall of the cyst approximated the floor of the orbit. At this juncture one of us (Q. D. J.) made a large naso-antrostomy opening. A strip of vaseline gauze about six inches in length was passed through this opening and out through the left nostril where it was secured to the nose. Another length of vaseline gauze, much longer than the former, was used to pack the large cystic defect and back into the tuberosity cystic defect as well. The mucoperiosteal flaps in the left tuberosity area were then closed with multiple 000 black silk sutures. The redundant mucoperiosteum overlying the bony opening created by the operation in the left cuspid region was excised and this wound was left packed open. The operation concluded at this point.

The pathology report was as follows: "The specimen comes in four portions. Sections through the tissue from the maxillary left tuberosity show this to consist of a not

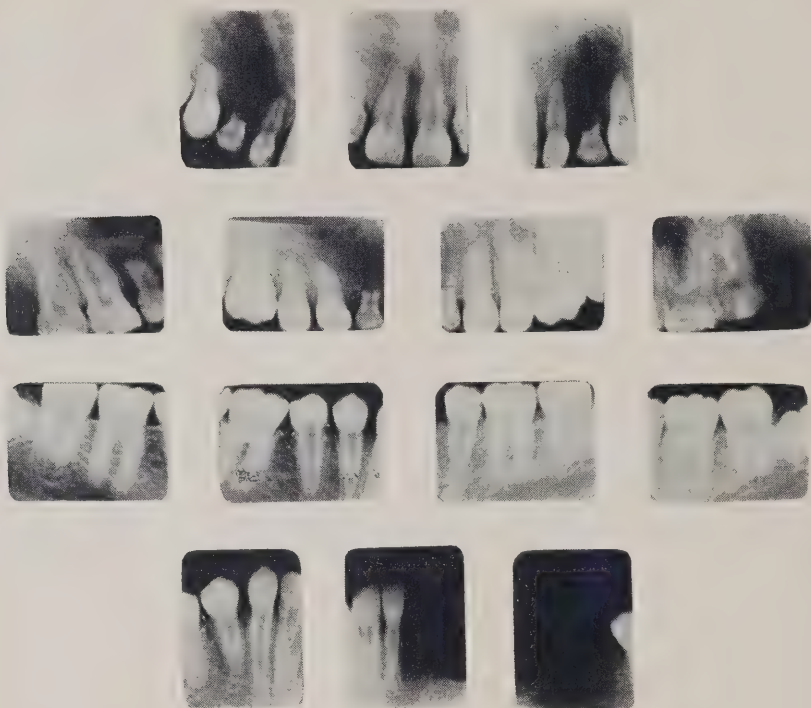


FIGURE 7 Full mouth radiographs taken in August 1959 as a routine follow-up procedure show good evidence of bony regeneration in the multiple cystic defects.

particularly thickened slightly oedematous but compact fibrous connective tissue surmounted by a rather compressed appearing but uniform squamous epithelium and probably this represents the wall of a cyst.

Sections through the tissue from the right maxillary cuspid area show a rather oedematous but fairly compact fibrous connective tissue structure, lined again by this same compressed appearing but fairly uniform squamous epithelium. In some areas it appears to be eroded with fairly abundant lymphocytic infiltration beneath the sites.

Sections through the tissue from the maxillary right tuberosity region show only a rather loose oedematous fibrous connective tissue with the extremity of one portion showing a few surmounting squamous epithelial cells.

Sections through the tissue from the maxillary left cuspid region show what apparently are aggregations of lining mucosa in which many mucous glands are present, as well as

small spicules of osseous tissue and surmounting columnar epithelial cells. Also, a portion of a rather denser fibrous wall is noted lined by squamous epithelium. In the wall of one area an aggregation of what apparently are fatty acid crystals is noted, with an occasional foreign body giant cell about them. There is fairly abundant sub-epithelial lymphocytic infiltration present. This probably represents the wall of the cyst in the left maxilla."

A diagnosis of probable radicular cysts of right and left maxillae was made.

The patient was seen postoperatively in the office on a twice-weekly basis for vaseline gauze dressing changes and irrigations. On March 3, 1959 an acrylic full-palate obturator was inserted with the projection extending into the maxillary right tuberosity defect. On March 10, 1959 it appeared that liquefaction of the wound constituents in the right cuspid area was occurring. On March 13, this operative site was opened under



FIGURE 8 One-year postoperative radiographs. Note periapical radiograph of the left maxillary tuberosity region, an enlargement of which is shown in Figure 9.

local anaesthesia, the liquefied material evacuated and the cavity filled with a vaseline gauze dressing. By June of 1959 the right cuspid area had completely filled in. A follow-up series of radiographs in August, 1959 revealed satisfactory attempts at bony regeneration (Figure 7). In September, 1959 the patient presented complaining of discomfort involving the left eye. The mother stated that some swelling had been present beneath the left eye for about three days. At the time of our examination no swelling or tenderness was present in this region. The operative sites looked satisfactory. It was suspected that the patient had experienced a transient episode of dacrocystitis sec-

ondary to the surgery and subsequent healing process in the left naso-antral region.

FOURTH EPISODE

In October of 1959 there appeared a small, pea-sized enlargement in the mandibular operative site. A radiograph revealed no osteolytic process in this region. It was decided to defer any specific treatment and to observe the lesion. On November 6 the nodular swelling of the mandibular area had collapsed and it was possible to express some white, caseous material from the lesion. The lesion subsequently reduced in size. By January 19, 1960, however, it had recurred



FIGURE 9 One-year postoperative radiograph showing a well circumscribed radiolucency in the left maxillary tuberosity region, an apparent recurrence.

and it was excised under local anaesthesia on January 29. The specimen was sent to the pathology laboratory and the microscopic description, in part, was as follows: "... The subepithelial tissue is densely collagenized in appearance and in the deeper surface of the free border quite a marked proliferation of fibroblasts is noted and this is seen to be present in the central portion. Foreign body particles are noted and a very early attempt at giant cell formation is seen. This part of the tissue may represent an old cyst lining . . ."

FIFTH EPISODE

On February 10, 1960, approximately one year following the original surgery for the maxillary cysts, full mouth radiographs were taken. All operative areas appeared to have normal bone regeneration occurring except in the maxillary left tuberosity region where definite evidence of a well-circumscribed radiolucency was present (Figure 8 and 9). To the authors this represented clinically a recurrence of the cyst in this region due to incomplete excision at the time of the original procedure.

On February 19, 1960 this cyst was exteriorized by a modified Partsch procedure and a specimen of the excised material was submitted for pathological examination. The microscopic diagnosis read as follows: "Sections through the small portion of tissue, apparently a cyst wall, show a fairly compact but not particularly thick fibrous connective tissue lined by a single layer of quite compressed appearing cuboidal squamous epithelium, there being no suggestion of any malignancy." The acrylic stent was modified so that a similar projection extended into the left tuberosity defect for purposes of keeping the defect open.

By May, 1960 the surgical defects were

filling in satisfactorily and the appliance was dispensed with. On August 29 the mouth appeared to be healing satisfactorily in all respects. On February 14, 1961 the second annual postoperative full mouth radiographic survey was made (Figure 10). All operative sites appeared to be within normal limits with good bony regeneration throughout.

The patient is now fifteen and one-half years of age, is six feet one inch tall and has not yet reached the menarche. Her progress in school has not been spectacular but neither could she be considered retarded in this respect. Her social adjustment, considering her inordinate height and ungainly features, has been essentially good. The paediatrician and endocrinologist who attended this patient over the past seven years have been unable to determine any systemic organic abnormality.

It is of interest to note that the medical pathologists who rendered diagnoses on our biopsy specimens almost invariably referred to the cysts as radicular in type. This, of course, is contrary to oral pathology teaching and bespeaks a lack of understanding of oral histology and pathology by some of our medical confreres.

SUMMARY

1. An unusual case of multiple odontogenic cyst formation in a young individual is presented.



FIGURE 10 Second annual radiographic survey shows all operative sites to be filling in satisfactorily with normal bony regeneration.

2. Over a six-year period five separate dental cysts were removed from the jaws of this young girl and three recurrences required operation.

3. Two different types of odontogenic cyst are represented including dentiger-

ous and primordial varieties.

4. Although an underlying systemic abnormality was suspected, qualified medical investigators were unable to uncover any specific entity.

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A Case of Haemorrhagic Bone Cyst of the Mandible

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The haemorrhagic, traumatic or solitary cyst of bone is classified as a simple bone cyst. The aetiology is for the most part unknown, although physical trauma is thought to be a very important factor. This cyst is characterized by intramedullary haemorrhage following a blow, although history of the blow may be lacking. The blood clot decomposes and an osteolytic area remains.

Pathologically, the cyst consists of an irregularly shaped cavity filled with blood, and surrounded by a vascular connective tissue membrane with haemosiderin, macrophages and giant cells.

Radiographically the haemorrhagic bone cyst manifests as a non-circular, radiolucent area with an ill defined cortex and absence of an epithelial lining.

The case report that follows describes a haemorrhagic bone cyst whose radiographic appearance presents a rather well defined cortex, and so may be considered mildly unusual from this aspect only.

CASE REPORT

History and Examination. — A 19-year-old white male was first seen in the Oral Surgery Department of the Doctors' Hospital on December 12, 1960, after a radiographic examination by his dentist had revealed a large radiolucent area in the right body of the mandible. This young patient had been seen by his dentist a few days previously

for a routine dental examination. A periapical film (Figure 1) revealed a large, well defined, corticated radiolucency in the right side of the mandible below the level of the molar and bicuspid teeth. The past health history revealed that the patient had pneumonia when he was a child. He had no other serious illness. The patient's father had died of pneumonia. His mother was alive and well.

On physical examination he appeared to be a healthy, well nourished, well developed young male. The cardiovascular system revealed no abnormality. Heart sounds were normal and the blood pressure was 130/60 mm. Hg. The pulse rate was 64 per minute. The abdomen was soft but the liver was not palpable. The chest was full and well developed with no visible or palpable masses. The genito-urinary, gastro-intestinal and nervous systems were normal.

On dental examination the head and neck were symmetrical with no visible or palpable lesions or masses. The lips, mucosa and tongue were normal in appearance. The periodontal tissues and dentition were also normal. There was no visible swelling or tenderness on the right side of the mandible.

The patient was admitted to hospital for surgical exploration of the lesion which was performed on December 3, 1960.

Preoperative laboratory findings were as follows: haemoglobin 14.3 Gm. per cent; white blood corpuscles 6,700 per cubic mil-



FIGURE 1

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limetre. The urine had a specific gravity of 1.024 and pH 5. No albumen or sugar was detected.

Surgical Procedure. — On the morning of December 13, 1960, following premedication of sodium pentobarbital, gr. 1½ on the preceding night, and atropine, gr. 1/100 together with meperidine hydrochloride, 50 mg. given one hour preoperatively, the patient was brought to the operating room. Anaesthesia was induced with sodium thiopental and maintained with nitrous oxide, oxygen and trichlorethylene. The patient was surgically prepared and draped in the usual manner. An incision was made extending obliquely toward the mucobuccal fold in the lower right bicuspid region of the mouth and a large mucoperiosteal flap was elevated.

The bone appeared to be normal. Using a bur and a dental drill, the large cystic cavity was penetrated. The lower right first and second molars were removed to facilitate adequate visualization of the cyst walls. There was no cyst lining present and this factor aided in confirming the diagnosis of haemorrhagic cyst of the mandible. Haemostasis was adequate and the flap was sutured back in position. The patient was returned to the recovery room in good condition. The following postoperative orders were given: Sips of clear fluid to diet as tolerated; meperidine hydrochloride, 50 mg. I.M. q.4.h. p.r.n. to relieve pain; an ice pack applied to the right side of the face, 20 minutes on and 20 minutes off for 6 hours; sodium pentobarbital, gr. 1½ h.s. p.r.n.; and mild warm saline mouth washes commencing 24 hours postoperatively.

Postoperative Course. — Following the operation healing occurred uneventfully and the patient was discharged from the hospital in improved condition on December 14, 1960.

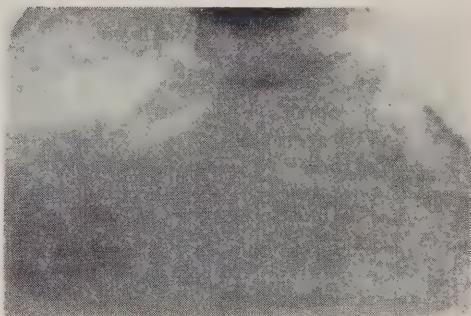


FIGURE 2

The patient was followed regularly in the Oral Surgery outpatient department of the Doctors' Hospital. The last radiographic examination (Figure 2) made on March 10, 1961 revealed good bony healing.

SUMMARY

This case report has dealt with a haemorrhagic bone cyst of the mandible whose radiographic appearance was slightly unusual. Clinically these cases are asymptomatic, presenting very little swelling or tenderness. Therefore the dentist or physician must rely entirely upon the radiographic and pathological evidence for the ultimate diagnosis.

Treatment in this case consisted of complete and meticulous surgical curettage of the bony defect, which resulted in good healing.

45 Brunswick Avenue

DENTAL PUBLICATIONS OF CANADA

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ABSTRACTS

Trigeminal Neuralgia

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Trigeminal neuralgia is comparatively rare. The slow, often sporadic progress also operates against individual experience being amassed. Temporary periods of relief, occurring as part of the pattern of the earlier stages, may coincide with some form of treatment or with a tooth extraction and thus further confuse the picture.

The first symptoms usually indicate a dental condition, and it is rare for a case to be referred to the neurologist before some dental attempts have been made to remove a suspected cause. Teeth remaining in the area of distribution of the affected nerve are progressively suspected and removed, and finally, when the general practitioner refers the patient to the neurologist, it is often with the report that nothing further can be done in the dental area. Accepted dental teaching allows the area to be pronounced clear of suspicion when radiographic evidence discloses no hidden roots or potential source of infection. This evidence is relied on by the neurologist, and thereafter little or no attention is paid to possible causes in the maxilla.

Though the cause is still classed as 'unknown' there is little doubt that it is in the maxillary innervation. Though the cause is sought as a hidden tooth root, it is clearly the peripheral nerve ending within that root which is the possible

source of the trouble. The dramatic cure reported after removal of such a root was actually due to the nerve—or neuroma—within or attached to it and which was removed along with it. The teaching assumes that such a causative nerve or neuroma must be contained within a root, but it need not be. The possibility of a 'post-extraction neuroma' resulting from a residual nerve is high. Contributory causes might include:

1. Traumatic: effects of the stretch-severance always suffered during extraction of the tooth.
2. Mechanical: recoil of the nerve on itself after severance, or withdrawal within the sheath to upset the absorptive processes.
3. Pathological: including the effects of pathological changes in the surrounding tissues.
4. Bone Change: The nerve lies in that section of bone which later will undergo appreciable and unique changes to form and to support the dental 'ridge'. The degree of consolidation will vary with circumstances; it would be more advanced in a section of upper ridge opposing an isolated lower tooth, and where no denture was worn, than in a position of little function. Any non-functional unabsorbed nerve in such an

area would be subject to conditions of unusual pressure.

If the cause is thus located temporary relief can be given by a simple operation. The nerve may be severed at its exit from the maxilla by means of a curved subperiosteal scraper, bevelled to enable close contact with the bone to be maintained throughout.

Permanent relief should then not be more than the problem of how best to prevent regeneration of the nerve. One simple method may be the insertion of a small curved plate to cover the maxillary

exit, pinned at its accessible lower border. Where the affected nerve lies within a channel, as the mandibular nerve, a section can be replaced by a metal or plastic implant without loss of any further tooth. Where there is no channel, a transverse plate should be effective without giving rise to further or additional symptoms.

If the site of the causative neuroma is suspected, then the area of the former tooth apices can be excised, after which no further treatment should be needed if the case is at an early stage.

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Fluoridation, Dental Health, and Socio-economic Level

C. R. CASTALDI, D.D.S., M.S.D., W. QUIGLEY, D.D.S.,
and W. A. ZACHERL, D.D.S., Edmonton, Alberta.

Dental health was evaluated for 537 children ranging in age from 6 to 12 years and from 3 socio-economic levels—high, middle, and low. Comparison was made with voting results in two successive fluoridation plebiscites. There were significantly fewer decayed and extracted teeth and more filled teeth in the high socio-economic group compared with the middle and low. Total DEF was, however, the same. There were fewer decayed and missing teeth and more filled permanent teeth in the high socio-economic group compared with the low. The

total DMF was significantly lower for the high socio-economic group. The dental health of the middle group was more like the high socio-economic group than the low. But in two successive fluoridation plebiscites the high socio-economic group favoured fluoridation by large majorities, while the low socio-economic group voted against fluoridation. The voting results in the middle socio-economic group ranged between the high and the low.

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DENTAL PERSONNEL IN CANADA

In January, 1961, 5,865 dentists were registered in Canada — C.D.A. Bureau of Economic Research.

EDITORIALS

Royal Commission on Health Services: the C.D.A. Acts

"What," recently enquired a member, "is the Association doing about the Royal Commission on Health Services?"

As one of its first acts the Commission invited the views of various organizations as to the areas and problems to be covered by its investigation. Statements of principles to this effect were requested and a preliminary hearing held in Ottawa on September 27. Detailed instructions for the submission of briefs and participation in hearings were issued by the Commission in mid-September. Tentative dates have been set for the public hearings from coast to coast, beginning on October 30, 1961 in Halifax and concluding on May 11, 1962 in Toronto. The stage has thus been set and in the meantime the Association has not been idle.

Readers will recall that in June the Board of Governors established a special committee of the Executive Council "to be responsible for the approval of submissions to the Commission by the Association and to review and advise, on request, respecting the drafting of submissions relating to dentistry by other organizations." This steering committee is composed of Doctors W. J. Dunn, P. G. Anderson and W. G. McIntosh, chairman.

Several meetings have been held in the meantime and, with the approval of the committee, the following actions have been taken: (1) submission to the Commission of a memorandum respecting areas of investigation to be covered and suggesting certain principles; (2) request to the four specialty sections of the Association to submit information on points of interest pertaining to each specialty which should be included in the Association's brief to the Commission; (3) request to the chairmen of Association councils and committees to submit information deemed worthy of consideration for inclusion in the Association's brief; (4) circulation of a memorandum to the secretaries of corporate members concerning the procedure of the Commission, the terms of reference of the steering committee and principles governing the Association's brief; and (5) drafting of a skeleton outline of the Association's brief.

At the preliminary hearing held in Ottawa, the Association was represented by Dr. W. G. McIntosh, chairman of the steering committee, Miss Isabel Boyd, director of the Bureau of Economic Research, and Dr. D. W. Gullett, Association

secretary. As a result of this hearing and other decisions, the Association's brief will be based on adopted policies and will deal with various matters from a national standpoint. Points of detail relating to any province will not be covered in the

Association's brief but will likely receive emphasis in the presentation made from the respective province.

Further developments will be recorded from time to time in the news columns as well as in these pages of the Journal.

Manners, Morals and Dollars: A Danger Signal

One of the more disturbing features of modern times has been the rising number of complaints from patients against dentists relating to services rendered and fees charged. Possibly this reflects an attitude prevalent among a minority within the profession whose main interests are apparently governed by pecuniary considerations. The repercussions, however, are of concern to every Canadian dentist because this attitude is damaging to our reputation in the eyes of the public who see it as representing an undue concern with how much we earn. These charges are particularly grave in the light of the public resentment engendered at a time when the practice of dentistry is vulnerable to the inroads of untrained and undisciplined elements desirous of appropriating sundry phases of clinical practice for their own purposes.

The problem is by no means confined to private practice. There have been several instances where dentists, having accepted salaried positions with school boards or health departments for a specified period of time, have shortly thereafter resigned, sometimes with scant notice to the employer, in order to pursue more attractive opportunities elsewhere. It must be remembered that these institutions plan their programs on a long-term basis and cannot operate efficiently with unreliable personnel. Regardless of

whether or not the arguments about inadequate remuneration, excessive regimentation or unreasonable administrative restrictions in salaried employment which these dentists so frequently advance in defence of their actions, are justified, the actions themselves are completely untenable in light of the fact that acceptance of the position is entirely voluntary. The responsibility of ascertaining all conditions attached to a prospective position rests squarely on the dentist and he must decide for himself whether the terms of employment are acceptable to him before, not after he accepts the position. The casual indifference with which a few members of the profession "use" the security afforded by salaried employment in this way until it has served their purpose and then wilfully disregard a moral obligation to fulfil the balance of a written or unwritten contract is unworthy of their professional status and borders on the unethical.

As a profession we are numerically a small group and such actions stand out as glaring deviations from that which is accepted as normal decent practice in our society. As dentists we must be scrupulous in guarding our professional integrity, especially from the taint of financial self-interest. The implications for the profession and for the public good of the complex problems arising from these

practices are too serious to be glossed over. The Canadian Dental Association and the secretaries of provincial licensing boards have urged the dental schools to strengthen their teaching programs in ethics and jurisprudence and have called for stronger action on the part of local societies in guiding young practitioners in the proper discharge of their responsibilities to the community.

So far, so good. But is this really enough? Perhaps there is a danger that with our current concern for student recruitment, necessary though it is, we may unwittingly tend to sacrifice some basic moral values on the altar of numerical increase. Some might even argue that concern for the philosophical attitude of the undergraduate dental student to his future vocation fails to match concern

for his academic ability and technical proficiency.

Individual dentists and organized dentistry should examine these questions very carefully. For if the highest standards of professional conduct need to be urged, on other than ethical grounds, the dentist can reflect that he will only deserve public support for his pleas for continued professional freedom in the future if he proves, individually and as a member of organized dentistry, that he is worthy of public trust now.

"... according to my power and judgement, I will prescribe regimen in order to benefit the sick and not to do them injury or wrong . . . In holiness and righteousness I will pass my life and practise my art . . . If then I fulfill this oath and do not violate it, may I enjoy my life and art and be held in honour among all men forever; but if I transgress and prove false to my oath, then may the contrary befall me." *The Hippocratic Oath*.

Joint Meeting

THE CANADIAN DENTAL ASSOCIATION

and

BRITISH COLUMBIA DENTAL ASSOCIATION

June 3-6, 1962

Queen Elizabeth Theatre, Vancouver, British Columbia

BUREAUX, COMMITTEES AND COUNCILS

Memorandum to the Royal Commission on Health Services from the Canadian Dental Association

The Steering Committee of the Executive Council

AREAS TO BE COVERED

Dental disease constitutes one of Canada's most serious health problems. Before measures for the alleviation and eventual solution of this problem can be recommended, the extent of unmet dental needs, the reasons for these unmet needs, and the resources available to meet them must be studied.

In particular, four major areas of dentistry would seem to warrant detailed examination.

1. Dental Needs

Estimates of the incidence and prevalence of dental caries, periodontal disease, and malocclusion;

Proportion of total needs being met;

Reasons for the discrepancy between need and effective demand for dental services;

Estimates of accumulated needs and annual maintenance needs in terms of cost and dental man hours;

Comparison of dental needs in areas with preventive programs (such as fluoridation, dental health education) and in areas without preventive programs.

2. Dental Services

Resources of professional and auxiliary personnel;

Proportion of dental health needs that resources can meet;

Existing preventive, diagnostic, and treatment programs;

Evaluation of the effectiveness of these programs in relation to cost and manpower expended;

Effectiveness and cost of preventive programs compared with treatment programs.

3. Dental Education

Existing facilities of dental schools;

Plans for future expansion;

Recruitment of dental students and auxiliaries;

Development of training programs for auxiliaries;

Financial aid to schools and students;

Placement of graduates;

Continuing education for graduates.

4. Dental Research

Development and contributions;

Current and future areas of investigation;

Personnel and facilities;

Amount and sources of funds.

STATEMENT OF PRINCIPLES

The Canadian Dental Association wishes to affirm its belief that universal adoption of proven preventive measures is essential to the achievement of good dental health for the nation. Treatment programs instituted without prior or parallel preventive programs will not solve Canada's dental health problem.

The following statements are based on adopted policies of the Canadian Dental Association:

(a) *Prevention*.—The orderly introduction and effective integration into a dental health program of the presently known preventive measures would reduce the prevalence of oral and dental diseases to a level where they could be controlled by treatment.

(b) *Control*.—The most effective and economical way of controlling the residuum of oral and dental diseases after all presently known preventive measures have been exercised by the individual and by the com-

munity, is early systematic diagnosis and treatment, beginning with the pre-school child.

(c) *Auxiliary Personnel.*—The Association believes that action should be taken to increase the number of dental auxiliaries and expand the services they are legally permitted to render.

Properly qualified and recognized dental auxiliaries could be trained to render a broader scope of service than that presently recommended.

The training of these new auxiliaries must be at the direction of the dental profession and should be given at a recognized dental school.

The services that these auxiliaries are qualified to render must be included in the prescribed teaching program, and must be under the direct supervision of qualified dentists.

These services must not include those operations requiring the scientific knowledge of the fully qualified dentist (e.g. case assessment, treatment planning, cutting or severing of hard and soft tissues, the administration of drugs, the making of prescriptions) but should include many of the technical operations and technical parts of operations

for which purpose auxiliary personnel has been adequately trained.

The licensed dentist must retain full responsibility for the patient's welfare.

(d) *Health Insurance.*—The principle of contributory health insurance is approved, provided that such plan or plans assure the development of both preventive and treatment services of the highest standard and that fairness to both the recipients of the services and to those rendering the services be assured.

(e) *Health Education.*—Intensive health education programs should precede the introduction of, and accompany the rendering of dental treatment service under any plan.

(f) *Research.*—Accelerated activity in dental research is essential if the dental health problem is to be brought under control. Success of any treatment services plan will depend upon reduction of dental diseases. Reduction of dental disease depends upon preventive measures developed through research. From the standpoint of both better dental health and economy, provision for expenditures in research should be a part of plans for dental treatment services.

DENTISTRY IN THE NEWS

The Association

ROYAL COMMISSION ON HEALTH SERVICES HOLDS FIRST HEARING

The federal Royal Commission on Health Services held its preliminary public hearing at Ottawa on September 27-28. Over 400 representatives of various organizations from across Canada were present on the first day of the hearing. Representing the Canadian Dental Association were W. G. McIntosh, a past president and currently chairman of the

steering committee directing the Association's brief, Don W. Gullett, secretary, and Isabel Boyd, director of the Bureau of Economic Research. Also present was W. J. Dunn, registrar-secretary-treasurer of the Royal College of Dental Surgeons of Ontario and a member of the C.D.A. steering committee. Like many other groups, the Canadian Dental Association had previously submitted a brief statement of principles and areas which it hopes the investigation will include.

The chairman of the Commission, the Honourable Emmett M. Hall introduced the members of the Commission as well as several senior staff members. He then read a

prepared opening statement which embraced the terms of reference of the Commission, the objectives of the study, the constitutional aspects of health, the procedures which the Commission is following, the dates of public hearings, format of submissions, and, finally, remarks pertinent to the preliminary hearing itself.

Two important sections of this opening statement are quoted herewith:

"In the stage of economic and social development which Canada has reached, as is the case in many other western countries, the desire for good health has become universal. The view appears to be developing, taken into account increasingly by governments, that opportunity for good health is the right possessed by all and should become available in one form or another to every citizen in Canada.

"There is at this time in our history a consciousness of health needs and services at all levels of government. Since this is a vital problem government wants to know what should be done to achieve the legitimate needs of the Canadian people in the field of health services; What will the cost be; How can those needs be met in the light of our constitutional division of legislative powers in Canada; How to correlate and integrate the existing services in any national program; How to secure, train, qualify and compensate the practitioners and specialists needed in Canada in the coming years; The feasibility and desirability of priorities in the development of health care services . . ."

At the outset the chairman called for any comments or observations from provincial authorities. Neither British Columbia nor Prince Edward Island was represented but all other provinces had important provincial officials at the hearing. Ontario was represented by the Honourable M. B. Dymond who indicated as did most of his associates that he was present to listen rather than to offer an opening statement. The province of Quebec, in a letter from its Premier, indicated that the scope of the enquiry lies outside the constitutional jurisdiction of the federal government and therefore the province of Quebec could not co-operate in the work of the Commission. Manitoba, in its presentation, took a position almost opposite to that of Quebec in believing that the federal government does have a responsibility but that this responsibility in no way derogates from provincial authority in matters of health. Manitoba made a strong case for an investigation of cost-sharing between both levels of government. The province also indicated that in its presentation it would lay strong emphasis upon the matter of preventive services. The Alberta presentation gave strong emphasis to the cost of drugs.

There were no representatives of municipal governments present. Presentations were then made by associations and private individuals including the Canadian Psychiatric Association, the Canadian Welfare Council, the Canadian Arthritis and Rheumatism

Society, the Registered Nurses Association of British Columbia, the Canadian Red Cross Society, the Association of Canadian Medical Colleges, the Canadian Dental Association, the Ontario Retail Pharmacists Association, the Canadian Physio-Therapy Association, the Canadian Medical Association (including l'Association des médecins de langue française du Canada), the School of Hygiene, University of Toronto, the Canadian Public Health Association, the Canadian Pharmaceutical Association, the Canadian Labour Congress and the Canadian Mental Health Association.

The presentation of the Canadian Dental Association developed by the secretariat of the Association and subsequently amended and approved by the steering committee had previously been forwarded to the Commission. In essence the presentation suggested the scope of enquiry in the area of dental services. Four main areas of concern were listed: dental needs, dental services, dental education and dental research. In addition certain policies of the Association having a pertinence to health insurance, auxiliary services and other related matters, were detailed. Dr. Gullett, when supporting the presentation verbally, directed the attention of the Commission to the characteristics of dental and oral diseases and advised the members that methods of prevention, control, and treatment, do not necessarily respond to some of the same principles which apply to other disease entities. He indicated that if any success were to be derived from treatment at all attention must be directed to the youngest age groups.

One of the most helpful and pertinent presentations was delivered by Dr. A. J. Rhodes, director of the School of Hygiene of the University of Toronto. He enunciated the essentiality of accurate measurement of Canadian health status. He felt that an evaluation of quality of practice and an evaluation of the quality of programs of both voluntary and official health agencies were most important. Also co-ordination of local and provincial programs was essential to an effective utilization of facilities and resources. Of particular interest is the fact that Dr. Rhodes gave significant emphasis to the matter of professional licensure and indicated strongly that the Commission should have regard for this area of concern.

The Canadian Pharmaceutical Association made a most forthright statement regarding its area of concern and one might assume that considerable emphasis will be devoted to the cost of drugs.

Speaking for the Canadian Congress of Labour, Mr. Andy Andras indicated five major areas of interest and concern to his organization. He asked the Commission to consider the social and economic implications of

unmet health needs, those factors which adduce to a high quality of health care, the most equitable methods of financing having due regard both for those who benefit from the services and those who provide them, and educational resources. As the fifth observation of the Congress he felt that the above studies should lead inevitably to an introduction of a comprehensive and universal health care program.

COUNCILS, COMMITTEES, SECTIONS ALERTED BY C.D.A. REGARDING ROYAL COMMISSION BRIEF

At the direction of the steering committee, notices have been sent to various officials, including C.D.A. council, committee and section chairmen and board members, outlining plans and progress of the Association's brief. Within the Association's administration, top priority is being given to work connected with the Commission. Canadian dentists can be assured that every attention is being directed toward one of the most significant projects ever undertaken by their national organization.

DATES OF ROYAL COMMISSION HEARINGS ANNOUNCED

The Royal Commission on Health Services will hold three types of public hearings:

1. Preliminary Hearing.—This hearing was held in Ottawa on September 27-28 to receive observations from various governments and organizations with respect to principles which may guide the Commission in its inquiry and to obtain suggestions of areas and problems to be covered in line with the terms of reference of the Commission.

2. Public Hearings.—These hearings are being held in every province. The first such hearings have been arranged for the Atlantic provinces as follows: Halifax, October 30-November 1; St. John's, Newfoundland, November 2-4; Charlottetown, November 7-8; and Fredericton, November 9-11. Subsequent hearings are scheduled for Manitoba and Saskatchewan in January 1962, for Alberta and British Columbia in February 1962, and for Ontario and Quebec from the middle of March to the middle of May 1962.

3. Final Hearing.—On completion of the hearings across Canada, a final public hearing will be held in Ottawa giving organizations and others an opportunity to submit supplementary briefs, rebuttals, and additional arguments and recommendations to

ensure that every worthwhile suggestion and proposal will be considered by the Commission.

ROYAL COMMISSION CONSULTANTS NAMED

The following persons have been appointed as consultants by the Royal Commission on Health Services:

Professor B. R. Blighen of the Department of Anthropology and Sociology, University of British Columbia, has been named director of research.

Dr. Pierre Jobin of the Department of Anatomy, Laval University, Quebec City, has been named medical consultant.

R. M. Hall, Q.C., has been named Commission counsel, Major N. Lafrance is secretary to the Commission. It is anticipated that additional research associates will be appointed in due course.

MACLEAN HEADS AUXILIARY COMMITTEE

President William Miller has announced the appointment of dean H. R. MacLean of the University of Alberta's dental school, Edmonton, as chairman of the Association's Auxiliary Services Committee. The recent death of R. A. Rooney, long-time chairman of this Committee, necessitated the new appointment.

Dr. MacLean has been a member of the Auxiliary Services Committee for several years. He is currently also chairman of a Sub-committee on Dental Auxiliary Training, established by the Council on Education to inquire into all aspects of the training of dental auxiliaries. A report of the sub-committee's recent Toronto meeting will be made available later.

WESTERN RECRUITMENT CHAIRMEN MEET

Recruitment chairmen from British Columbia, Alberta, Saskatchewan and Manitoba met recently for information and instruction. The meeting, held in Regina, was under the chairmanship of R. R. McIntyre of Calgary who is western representative on the Canadian Dental Association's National Recruitment Committee.

Dr. McIntyre discussed the successful recruitment program which his committee

have been carrying out in Alberta. K. L. Croft, secretary of the national committee, commented on the efforts of that group to stimulate recruitment of dental students and to assist provincial and local groups.

Attending the one-day meeting were J. A. Michaelson of Vancouver; J. J. Schachter, W. F. Hancock and J. C. Zaporinuk of Saskatchewan; J. E. Abra, G. A. Brass and W. G. Campbell of Winnipeg.

EDUCATION CHAIRMAN APPOINTED TO NATIONAL CONFERENCE

Dr. Jean-Paul Lussier of Montreal represented the Canadian Dental Association at the National Conference of Universities' and Colleges' special conference "Canada's Universities in a New Age" in Ottawa, November 13-15. Chairman of the Association's Council on Education, Dr. Lussier is associate dean and director of studies at the Faculty of Dental Surgery, Université de Montréal.

One of the papers at the Ottawa conference featured medical and dental education.

RESEARCH COUNCIL MEMBER NAMED MEDICAL DEAN

A Canadian medical researcher who spent a week as a visiting lecturer at the University of Vermont will return next January as dean of the medical school there. Dr. R. J. Slater, 38, of Toronto, has served for the past three years and is currently a member

of the Canadian Dental Association's Council on Research.

Dr. Slater has been described as "probably one of the real international authorities on kidney disease in children". He is a member of the research institute at the Hospital for Sick Children and an associate in the paediatrics department at the University of Toronto medical school.

OFFICE OVERHEAD INSURANCE PLAN

All practising dentists are being urged to enrol in the office overhead group insurance plan, details of which were recently circulated to all Association members.

The plan offers the only means of protection to otherwise uninsurable dentists. Applicants who cannot qualify on medical grounds have heretofore been issued policies with restrictive riders. Current applications from such individuals are being held in abeyance. When sufficient members apply, the uninsurables will obtain full protection and riders will be deleted from restricted policies.

The Canadian Dental Association has authorized qualified representatives of the underwriters, Mutual of Omaha, to contact every member who has not yet applied. On behalf of the uninsurables in particular, and for the benefit of all C.D.A. members, every dentist is urged to spare a few moments when the authorized representative calls to explain this plan and show how it will fit into an overall insurance program to meet a serious deficiency in existing protection.

With co-operation from the membership,



At a ceremony conducted earlier this year in Edmonton, Alberta, the late R. A. Rooney, former registrar-secretary of the Alberta Dental Association received the certificate of fellowship in the International College of Dentists from H. R. McLean, dean of the Faculty of Dentistry, University of Alberta. Dr. Rooney died on August 29.

all present and future members of the Canadian Dental Association will be ensured this vital protection regardless of medical impairment.

HEADQUARTERS EXPANSION PLANNED

Members of the Headquarters Property Committee met recently to discuss further plans for the new wing authorized at the 1961 annual meeting of the Association. Architect Robert McLeod of the firm of John B. Parkin and Associates detailed plans for the addition.

Construction is expected to begin early next spring. Before that time, final blueprints must be drawn, municipal permits arranged, and tenders called. The Headquarters Property Committee has set up a schedule of regular meetings to deal with problems as they arise.

1961 TRANSACTIONS AVAILABLE

Published Transactions of the 1961 meeting of the Board of Governors have been sent to every member of the Association and to other individuals, libraries and organizations.

A new binding process, called perfect binding, was used in this edition for the first time. It permits the books to open flat, thus allowing easier reading and reference.

Canada and the Provinces

C.D.A. DIRECTORY AVAILABLE

The latest edition of the annual C.D.A. Directory is now available at Association Headquarters at \$1.00 per copy. This 1961 Directory contains a complete list of Association members with addresses, dental school and year of graduation. Membership lists of the four sections—oral surgery, orthodontic, periodontic and dentistry for children—are included.

ALBERTA

First Dental Mechanics to Get Certificates.—Alberta's first dental mechanics to be certified under the law enacted during the last session of the provincial legislature will shortly receive their certificates.

According to J. P. White, chairman of the Alberta Apprenticeship Training Board and a member of the Board of Examiners for Dental Mechanics, the draft of regulations governing the mechanics has been placed before the provincial cabinet.

The first mechanics to be certified will require no examination. They will be certified on the basis of laboratory facilities, education, training and experience following cabinet approval of the regulations.

Certification permits the mechanics to take impressions and fabricate and fit dentures.

BRITISH COLUMBIA

Fluoridation Survey in Kelowna.—Kelowna dentists carried out a post-fluoridation survey during the month of October. Between 750 and 1,000 children were examined. The usual criteria regarding age, residency, and continuous consumption of Kelowna water since birth were observed, although absences of up to six weeks were discounted. A series of trial examinations were conducted during the week preceding the survey in order to assure uniform charting. Kelowna's water was fluoridated in October, 1956; therefore the results of the present survey will be awaited with interest.

Kootenay Dental Society.—On September 23 the semi-annual convention of the society was held in Nelson, with dentists present from Rossland, Trail, New Denver, Fruitvale, Nelson, Creston, Cranbrook, Kimberley and Invermere. The meeting was devoted to association and college business in the morning with clinical sessions being held in the afternoon. The meeting concluded with a banquet.

J. C. Lewis, president of the British Columbia Dental Association, reviewed association affairs. A. E. Swanson of Vancouver, the clinician, spoke on the subject of clinical oral pathology. A motion picture describing the alteration of x-ray machines for radiation protection was presented through the courtesy of the provincial department of health. Guest speaker at the banquet was Dr. A. S. Arniel, director of the Selkirk Health Unit, Nelson.

New officers elected by the society were M. K. Bauman of Cranbrook, president, and V. A. Low of Creston, secretary-treasurer.



Scenes from the old gold mining town of Barkerville, British Columbia, which is being restored as a historic site. British Columbia dentists are collaborating with the provincial government by re-equipping an old-time dental office of the period 1860-65. Dentists across Canada who have disposable period dental equipment are invited to communicate with the British Columbia Dental Association.

—Munshaw.

Above: The old Anglican church of St. Saviour, built in 1862, destroyed by fire in 1868, rebuilt the following year, and still in excellent condition.

Right: The Main Street of Barkerville being restored as it existed in 1862.



Antique Dental Equipment Requested for B.C. Historic Site.—Nowhere on the North American continent is there a more colourful and historic site than the old gold mining town of Barkerville, B.C. From 1861-65 twenty thousand people were frantically digging at Williams Creek in its immediate vicinity for gold. Barkerville was then the second largest town west of Chicago. Now, except for a few dozen people, it is deserted. Barkerville is unique in that it is the sole survivor of the old gold mining camps of the west and it is in an excellent state of preser-

vation. Some \$45 million in gold was taken out of the area between 1860 and 1865.

The creeks in the Barkerville area were again panned by many hundreds of unemployed miners during the hungry "thirties". Most of the old cabins were re-occupied at that time. This accounts for the excellent state of preservation of the village. It is said that there is still plenty of gold in the area for those who care to seek it.

On January 14, 1959, the British Columbia government declared Barkerville an historic site and provincial park. One hundred and

sixty acres have been set aside, eleven of them in the village itself.

The British Columbia Dental Association has been asked by the provincial government to assist in restoring an old-time dental office. Anyone in Canada who possesses old dental equipment, instruments or furniture which he would like to donate to this project is invited to communicate with W. Ross Upton, secretary, British Columbia Dental Association, 925 West Georgia Street, Vancouver, B.C., or with L. K. Grady, 107 East Hastings Street, Vancouver, B.C. Potential contributors are invited to write regarding any article so as to avoid duplication. All donors' gifts will be properly acknowledged by the British Columbia government.

Through their respective associations, physicians and pharmacists are also refurbishing old offices and stores.

This museum site, when restored, will exemplify some of Canada's colourful and romantic past in the mining areas of the west. Canadians are sometimes guilty of indifference and neglect in regard to the preservation of these landmarks until it is too late. There is much of historical value to be preserved in Barkerville. Other buildings being restored by the government include the post office, court house, blacksmith's shop, barber shop, saloon, printing shop, stables, and Chinese miners' cabins. The town will be officially opened to the public as a museum site in the summer of 1962.

NOVA SCOTIA

Halifax County Dental Society. — The first meeting of the Halifax County Dental Society for 1961-62 was held in September at the Dartmouth Business Men's Club and took the form of a mixed gathering with a reception and buffet supper. Dr. G. W. Caldwell, the president, and Mrs. Caldwell received the guests. The meeting was well attended and there were several out-of-town visitors. Such a social gathering affords members of the profession and their wives an opportunity to meet one another early in the season.

ONTARIO

Eastern Ontario Dental Association. — Addressing a breakfast meeting of the Eastern Ontario Dental Association Convention at

Ottawa on September 19, Don. W. Gullett, secretary of the Canadian Dental Association said "The Canadian dental profession must solve its manpower shortage or face the alternative of a solution imposed by government".

Dr. Gullett quoted unpublished data from Sweden where free dental care is provided every six months to everyone below age 15. Thereafter, dental care is voluntary and paid for, but available information indicates that the great majority of Swedish adults visit their dentist at least annually.

"We may not like the system but we must take notice of the results," Dr. Gullett added. "We could not begin to match them." To match Swedish dental services this country would have to graduate more than 800 dentists a year instead of the present 327.

Northern Ontario Dental Association Establishes Loan Fund for Students.—A loan fund will be made available to dental students by the Northern Ontario Dental Association, it was announced at the recent convention held by the association September 8-10. The amount of each loan will be geared to the individual student's requirements.

Elected as officers for the year 1961-62 were: J. J. Parisi of Timmins, president; N. O. Doner of Kirkland Lake, vice-president; and J. C. Shaw of Timmins, secretary-treasurer.

More than 80 dentists from northern Ontario and Michigan's upper peninsula attended the meetings in Sault Ste. Marie.

Essex County Dental Society. — The last general meeting of the Essex County Dental Society was held on May 25 when the following new executive was elected and installed: L. J. Schiller, president; J. E. Austin, vice-president; D. L. Coppel, treasurer; and J. M. Fejes, secretary.

Lambton County Dental Society. — At a recent meeting of the Lambton County Dental Society, the following members were elected to the executive for 1961-62: D. F. Brown of Petrolia, president; R. M. Williams of Sarnia, vice-president; D. R. Smith of Sarnia, secretary; T. K. Storey of Sarnia, treasurer; R. Crawford of Sarnia, program chairman; and A. Heisler of Sarnia, publicity chairman.

International Items

FEDERATION DENTAIRE INTERNATIONALE

The Lighter Side of Cologne.—Having published information about the scientific and general programs for the XIII International Dental Congress, Cologne, 1962, in previous issues of the Journal, we herewith present to readers an outline of the social events.

Sunday, July 8, 1962

8.30 P.M. Concert of Organ Music in the Cathedral.

Monday, July 9, 1962

9.30 A.M. & Visits to the firms of *Stollwerck*
2.00 P.M. and 4711, tours of Cologne and visits to shops.

8.00 P.M. Reception at the Tanzbrunnen.

Tuesday, July 10, 1962

9.30 A.M. & Visits to the firms of *Stollwerck*
2.00 P.M. 4711, *Bayer-Leverkusen*, *Madaus* and to museums. Tours of Cologne and visits to shops. (Repeated on Wednesday and Thursday).

3.00 P.M. Coffee cruise on the Rhine.

4.00 P.M. Fashion Show in the 'Flora'.

8.00 P.M. Opera.

Wednesday, July 11, 1962

4.00 P.M. Fashion Show in the 'Flora'.

8.00 P.M. Chamber music at the 'Brühler Schloss'.

8.00 P.M. Chinese lantern cruise on the Rhine.

8.00 P.M. Banquet.

Thursday, July 12, 1962

3.00 P.M. Coffee cruise on the Rhine.

4.00 P.M. Fashion Show in the 'Flora'.

8.00 P.M. Opera.

8.00 P.M. Chinese lantern cruise on the Rhine.

Friday, July 13, 1962

9.30 A.M. Visits to the firms of *Bayer-Leverkusen* and *Madaus*. Visits to museums and shops, tours of Cologne.

7.00 P.M. Congress Ball.

Three Exhibitions will form part of the congress:

1. The vast XV International Dental Trade Show.

2. A scientific exhibition.

3. The dentist as an artist.

In the last exhibition will be shown paintings, sculpture, works of graphic art, handicrafts and literary works, provided they are not of a scientific nature, which have been done by dentists in their leisure hours. All dentists who engage in such pursuits are invited to participate in this exhibition and to notify Dr. Paul Jäger, Nikolaistrasse 2, Munich 23, West Germany, to this effect. Dr. Jäger will send by return mail conditions for participating in this exhibition.

Further information may be had from the Secretary General of the Congress, Universitätsstrasse 73, Köln-Lindenthal, West Germany.

FRANCE

Pierre Fauchard Bicentenary Celebrations.—On July 1 and 2, 1961 in Paris, the national committee set up to organize the celebrations under the presidency of André Bescombes and ably assisted by the secretary, Max Filderman, brought together dentists from all over the world to pay homage to the memory and work of Pierre Fauchard, the father of dental art and practice.

Registration took place early on Saturday morning, July 1, at the Ecole Odontologique where one could obtain the commemorative stamp and post cards with the effigy of Fauchard especially struck for the occasion. The foreign representatives and distinguished visitors were taken to the beautiful City Hall of Paris where a reception was given to them by the municipal council of Paris. During the reception presentations of silver and bronze medals of the city of Paris were made.

The heads of the foreign delegations, among whom was Don W. Gullett, representing the Canadian Dental Association, were then taken to the Trianon Palace at Versailles and entertained to a splendid luncheon. Here again most magnificent commemorative plaques were presented to selected foreign visitors.

During the afternoon there was an excursion into the valley of the Chevreuse and at five o'clock in the courtyard of honour of the Château de Grand-Mesnil, a ceremony of unveiling the bust of Pierre Fauchard took place with appropriate speeches. The day ended with a reception and Pierre Fauchard exhibition at the Ecole Dentaire de Paris.

Sunday, July 2, began with a tour of the part of the district round the medical

school where Pierre Fauchard lived, worked and was buried. Later in the morning there was a visit and reception at the Ecole Odontologique de Paris. In the afternoon came the highlight of the celebrations, the formal meeting in the grand amphitheatre of the Sorbonne in the presence of distinguished members of the government, medical and dental members of the faculties of the University, foreign delegations and the French dental organizations. Homage was paid to Pierre Fauchard in many fine speeches, including those of Georges Duhamel, Edouard Rand, Jean Delibéros, Obed Moen and André Bescombes.

This was followed by a delightful program of music and ballet. The celebrations concluded in the evening with an official banquet at the Pavillon Dauphine.

Those who arranged the celebrations are to be congratulated on the success of their efforts. One came away with the impression of a dignified and moving tribute to a great man and dentist—Pierre Fauchard.

Dental Education.—Reform of dental education in France has occupied the French Ministry of Education ever since the end of the second world war. The recruitment of dental students and educators will be united under a governmental agency concerned with the teaching and advancement of dental knowledge and research. The system of competitive examinations will not only be preserved but will be strengthened by the introduction of national examinations which must be passed before graduation. After a transitional period the faculty members of all dental schools will be obliged to devote full time to the triple task of caring for the patients at the school's dental clinic, teaching students and carrying out research projects. Only heads of departments and their assistants will have the right to treat patients at private dental offices. Whilst the proposed change is opposed by the French dental profession, it is favoured by the majority of the younger generation in the French dental profession.

UNITED KINGDOM

Britain's National Health Service Raises Fees.—Weekly payments for Health Services and other benefits in the United Kingdom have been raised by 12 cents to \$1.49. At the same time, the amount charged for dentures which were free until 1951, was raised from \$12 to \$14. The chief reason for the increase is that National Health Service costs totalled

2.2 billion dollars in fiscal 1961, nearly double the expense since the time of inception thirteen years ago. The present total represents 14 per cent of all government expenditure.

Unblocking Waste Pipes.—A reader of the *British Dental Journal* recently suggested this method for unblocking the waste water outlet pipe from a dental unit which may have become blocked by small pieces of plaster or waste amalgam lying in a bend of the pipe. Every inlet for waste water, such as the cuspidor bowl, wash basin, and dark room or laboratory sink, must be plugged with towels or old rags. One assistant is required at each point to hold the rags firmly in position. They must be held down firmly. The small drinking glass bowl of the cuspidor is then unscrewed. A full cylinder of nitrous oxide is placed over the inlet hole, with a rubber washer intervening. The gas cylinder is opened and the gas pressure will do the rest. (From the *British Dental Journal*, Vol. 111—No. 1—July 4, 1961.)

UNITED STATES

Demonstrate Dental Insurance Plan Feasibility.—The results of two years' experience with the first insured comprehensive dental health care plan in the United States have been made public by The Dentists' Supply Company of New York, the sponsoring company. The program, launched in August, 1959, with the Continental Casualty Company of Chicago as underwriter, is designed to provide complete dental health care covering all phases of dentistry for the 2,300 employees and dependents of the company. The program was pronounced "a complete success" by H. M. Thornton, company president.

In the second year of the plan's operation, with 92 per cent of the dentists in York County participating, the total number of claims paid showed an increase of 87 per cent over the first year. As of July 31, a total of 3,052 claims had been paid during the two-year period. However, the increase in actual dollar expenditures, in terms of total cost of services rendered for claims paid, showed an increase of only 33 per cent. The average cost of services rendered for claims paid showed a drop in the second year to \$39.80, compared with the previous year's average of \$55.99. The report also shows that in the second year the number of maximum payment claims payable under the maximum provisions of the program

(i.e., \$300 in the second year) dropped to 21, compared with 32 the previous year.

The Dentists' Supply Company's plan is comprehensive in coverage. Thirty-seven per cent of the costs of the dental service rendered was for fixed and removable bridge-work and for complete and partial dentures. Thirty-six per cent was for fillings and crowns; 7 per cent in oral surgery and root canal therapy, and 3 per cent in orthodontics. The annual dental examinations and prophylaxis provided for in the plan accounted for 15 per cent of the service costs. The total cost of services rendered for claims paid during the two year period exceeded \$138,500. Accumulated actuarial experience in the first two years of this program, as well as the treatment levels and resulting costs which have been encountered, indicate that comprehensive coverage of this type of dental health insurance may well achieve national acceptance, particularly in the field of management-labour relations.

New Dental Insurance Plans Introduced in California, Massachusetts and New Jersey.—A group dental care plan underwritten by the California Dental Association Service for employees of the Mechanics Bank of Contra Costa and Alameda counties went into effect on July 1, 1961. The plan covers an extensive range of dental restorative and maintenance procedures, including prophylaxis, antibiotic treatments, oral surgery and endodontics. Some seven hundred dentists are said to be co-operating in implementation of the plan which assures the patient freedom to select his own dentist.

The Continental Casualty Company intends to introduce its dental insurance plan in New Jersey. The plan, which has been approved by officials of the New Jersey State Dental Society, complies with the standards established by the society for evaluating such plans. Under the plan, which is available to any employee or union group of one hundred or more, the beneficiary pays the first \$25 of the cost for each family member up to a family maximum of \$75; in the second and following years, the deductible amount is \$10 per individual and \$30 per family. The plan pays 80 per cent of the balance of the cost; the beneficiary 20 per cent. The beneficiary may select any licensed dentist. There is no fee schedule, and no contractual agreement with the insurance company is required; the dentist participates by accepting the insured patient and filling out a treatment plan and billing forms.

A dental care insurance program has also been inaugurated by Astra Pharmaceutical Products, Inc., Worcester, Massachusetts for its employees and their dependents. The plan was developed in co-operation with the

Worcester Dental Society and is underwritten by the Union Mutual Life Insurance Co., Portland, Maine. The beneficiary may select any licensed dentist, and there is no fee schedule. The maximum benefit per person per year is \$1,000. After satisfying the deductible provision of the \$25 per person per calendar year—\$75 maximum per family—the plan pays 75 per cent of the balance, the employee 25 per cent. The assistance of the dental society will enable the Astra Company to gather much useful information for statistical, actuarial and insurance purposes.

More Dental Insurance Policies Predicted.—The next big development in health insurance, according to a recent issue of *U.S. News and World Report*, will be policies that pay part of the patient's dental bill.

The magazine reports that some group plans have already been inaugurated and many companies plan to issue both group and individual policies soon.

Protection will vary according to cost, the magazine points out, adding that companies concede that they will have to have considerable experience with prepaid dental care before costs can be crystallized.

Under one group plan cited, the insurance pays four-fifths of all amounts under ten dollars, four-fifths of the cost of an annual examination and prophylaxis and, with limits, three-fifths of orthodontic costs.

Maximum benefits are \$300 per individual and \$750 per family, later increasing to \$400 and \$1,000 respectively.

The cost under this plan is expected to be around \$100 a year per family.

Nationwide T.V. Program for Children's Dental Health Week.—The first national network television show in support of (American) National Children's Dental Health Week, will be presented by the American Dental Association on February 6, 1962, over the Columbia Broadcasting System. The noted film actor Henry Fonda will star on the program.

The program has been purchased for the dental profession by Procter and Gamble Company. There will be no commercials. Instead, all commercial time will be relinquished to the association to present dental health education messages.

Fluoridation Victory Near in Chicago.—A five-year legal battle over Chicago's right to fluoridate its water supply neared an end on September 1 when the Superior Court Master in Chancery who had been holding hearings, announced he would rec-

commend dismissal of the injunction suit against the city and vindication of Chicago's right to fluoridate. While a court is not bound by a master's report, judges usually follow its recommendations.

The injunction suit, which was filed on May 1, 1956, claimed that water fluoridation was unconstitutional and dangerous to health. Fifty-one hearings were held, filling 2,930 pages of testimony. The report takes a strong stand on fluoridation's efficacy and safety. It points out that fluoridation is not medication, as generally understood, and that no religious scruples are violated by fluoridation.

The report was filed with the Superior Court on September 21 and a judge was named to receive it.

U. S. Fluoridation Covers 45,000,000.—As of January 1, 1961, 1,968 communities in the United States were fluoridating water supplies serving 38,477,000 people. In addition, there are more than seven million people using water with a natural fluoride content at the approximate recommended level. As of the same date, 187 communities have discontinued fluoridation, with 13 later re-instituting it.

A decision of the Iowa Supreme Court and an action of the Kansas City, Mo., city council, both in late September, significantly furthered the cause of fluoridation. On September 18, the Iowa Supreme Court unanimously upheld the right of that state's cities to fluoridate their water supplies while on September 22, the Kansas City governing body voted 6-3 to begin fluoridation of that city's water supply. Kansas City has a population of 475,539 and is the 27th largest city in the nation.

Forthcoming Dental Meetings.—The following meetings of dental societies have been scheduled for the fall and winter months of 1961-62:

The First District Dental Society of New York City has scheduled the following post-graduate program: Oral Reconstruction, December 1-2, 1961; Removable Precision Bridge Techniques, December 12-16, 1961; Partial Denture Case Analysis, January 12, 1962; and Practical Radiodontics, January 24, 1962. All courses are held at the Statler-Hilton Hotel in New York City. Further information may be obtained from the Post-graduate Education Program, First District Dental Society, Statler Hilton, New York 1, New York, U.S.A.

Canadian Dental Schools

McGILL UNIVERSITY

A staff member of the Faculty of Dentistry, L. E. Francis, D.D.S., M.Sc., is the co-author of a newly published text, *Dental Pharmacology and Therapeutics*, (W. B. Saunders Co.). Dr. Francis is assistant professor of Clinical Dentistry at McGill University, Montreal. A book review of this new text will be published in a forthcoming issue of the Journal.

UNIVERSITE DE MONTREAL

Promotions and Appointments.—The following promotions and appointments in the Faculty of Dental Surgery, Université de Montréal were recently announced:

Claude Baril, D.D.S., M.S., has been promoted to associate professor of Orthodontics. Jacques Bisaillon, D.D.S., has been promoted to assistant professor of Orthodontics.

Arto Demircioglu, D.D.S., has been appointed assistant professor of General Anatomy.

Jean-Guy Laguë, M.S., has been appointed as instructor in Biochemistry.

Claude Durand, D.D.S., Gustave Dupras, D.D.S., Roger Grégoire, D.D.S., Hubert Labelle, D.D.S., and Claude-Béique Nadeau, D.D.S., have been appointed instructors in Clinical Dentistry.

Gerard de Montigny, D.D.S., M.Sc. (Dent.), has been appointed full-time professor of Oral Surgery and head of the department.

Margaret Pertwee has been appointed as librarian of the Faculty of Dental Surgery.

Staff News.—J.-P. Lussier, associate-dean of the Faculty of Dental Surgery, recently attended the third annual informal meeting of deans of Canadian dental schools in Mont-Gabriel, P. Quebec.

During October, Gerard de Montigny attended a scientific meeting presented by l'Ecole Dentaire de Paris, France, for a group of dentists from the province of Quebec. He also visited the dental school of Athens, Greece.

Jean Nadeau, director of the prosthetic department recently attended meetings of the American Academy of Maxillo-Facial Prosthesis. Dr. Nadeau is a member of board of directors of this organization. In October, Dr. Nadeau also attended the annual meet-

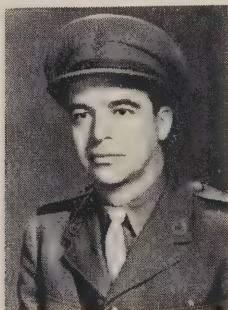
ings of the American Denture Society and of the American Dental Association in Philadelphia.

UNIVERSITY OF TORONTO

Staff Promotions.—J. A. Pedler, B.D.S., L.R.C.P., M.R.C.S., M.D.S., F.D.S., has been appointed professor and head of the department of Oral Diagnosis. Following graduation from the University of London in 1941, Dr. Pedler was appointed house surgeon at the London Hospital. From 1942 to 1947 he was on war service with the R.A.F. Dental Branch. From 1950 Dr. Pedler was senior registrar, London Hospital Dental School, and since 1951 senior lecturer in Dental Pathology at London Hospital Medical College.

Faculty promotions include that of R. M. Grainger, D.D.S., D.D.P.H., M.Sc.D., to the rank of professor; D. H. J. MacDonald, D.D.S., to associate professor, and W. D. P. Cavanagh, D.D.S., and M. E. Lucyk, D.D.S., to the rank of assistant professor.

Royal Canadian Dental Corps



Lt.-Col. L. G. Craigie of Kamsack, Saskatchewan, who was recently appointed Commanding Officer, No. 35 Field Dental Unit with headquarters in Metz, France.

BRIGADIER BAIRD VISITS TORONTO AND CAMP BORDEN

Brigadier K. M. Baird, Director General of Dental Services for the Canadian Forces attended a meeting of the Sub-Committee on Dental Auxiliary Training, Canadian Dental Association, of which he is a member, in Toronto on September 25, following which he visited the R.C.D.C. School at Camp Borden.

CORPS SERVICE IN FRANCE RECOGNIZED

The Royal Canadian Dental Corps has shared in a signal honour conferred on Canadian units and services who served in France during the second world war.

A symbolic ceremony was held in Quebec City in September, 1960 when Countess Het-tier de Boislabert, patroness of le Régiment de la Chaudière presented a small chest containing soil collected from Canadian military cemeteries in France to His Excellency, the Governor General of Canada. Le Regiment de la Chaudière of Levis, P. Que., one of the units which took part in landings on D-Day, was chosen as custodian of this symbolic chest. This regiment expressed the wish that all Canadian units and services who fought in France during the second world war should share this honour and accordingly each has now received a replica of the chest complete with a portion of French soil. The chest presented to the R.C.D.C. will be retained permanently at the R.C.D.C. School, Camp Borden.

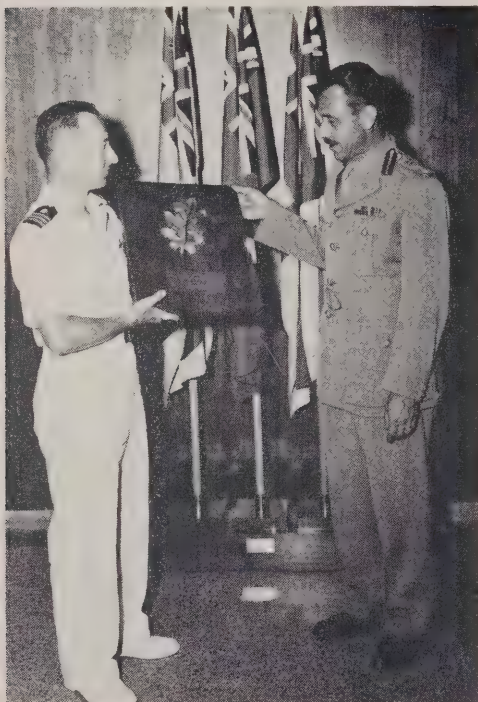
OFFICERS ON COURSES

Major W. R. Thompson, the R.C.D.C. School, is attending the 16-week "Advanced Dentistry" Course at Walter Reed Army Medical Centre, Washington, D.C.

Major J. V. P. Chatwin, Kingston, is taking resident training in Oral Surgery at the Doctors' Hospital in Toronto.

The following officers are attending the Captain to Major Qualifying Course at the R.C.D.C. School:

Captain G.-I.-J Bisailon, Captain J.-O.-L. Bourget, Captain R. J. Bryant, Captain H. G. Bunston, Captain H. J. Cashin, Captain G. M. D. Conrad, Captain G. T. Crossman, Captain J.-L.-Y Cyrenne, Captain D. G. Gardner, Captain D.-R. Girard, Captain B.-A. Goudet, Captain H. F. MacKay, Captain V. M. McMaster, Captain G. D. Mollins, and Captain W. F. Shaw.



EXCHANGE OF OFFICERS: U. S. NAVY AND R.C.D.C.

An exchange of dental officer instructors has taken place between the R.C.D.C. School, Camp Borden and the U.S. Navy Dental School, Bethesda, Md. Lt.-Col. J. W. Turner of Toronto has joined the Crown and Bridge Department of the U. S. school for one year and Commander R. R. Troxel will teach the same subject in Canada for the same period. In the accompanying photograph Commander Troxel is shown presenting a plaque on which is engraved the emblem of the U.S. Navy Dental Corps, to Colonel C. E. Purdy, Commandant, the R.C.D.C. School.

ORAL HEALTH MEETING

Major D. H. Protheroe represented the Director General at the September 27 meeting of the editorial board of *Oral Health* magazine in Toronto.

Commander R. R. Troxel, U. S. Navy Dental Corps, is shown presenting a plaque bearing the emblem of the U. S. Navy Dental Corps to Colonel C. E. Purdy, Commandant, the R.C.D.C. School, Camp Borden, Ontario. Commander Troxel has joined the staff of the R.C.D.C. School for one year as part of an exchange of Canadian and American dental officer instructors.

DENTAL OFFICERS PARTICIPATE IN E.O.D.A. CONVENTION

Lt.-Col. S. G. Bagnall, Chief Instructor, the R.C.D.C. School, was one of the essayists at the Eastern Ontario Dental Association Convention held in Ottawa on September 17-19. The subject of his presentation was "Complete Dentures—Remount Procedures".

Also attending this convention were Brigadier Baird and Major Protheroe from the Directorate of Dental Services, Major A. G. Andrews, R.C.A.F. Station Rockcliffe and Major J. M. A. Donely, No. 1 Clinic, Ottawa.

Public Health

C.P.H.A. HONOURS SASKATCHEWAN DENTAL DIRECTOR

At its annual meeting in Regina last June, the Canadian Public Health Association conferred an honorary life membership on A. E. Chegwin, director, Dental Health Division, Saskatchewan Department of Public Health. Dr. Chegwin is the first dentist to receive this honour.

Dental director for Saskatchewan since 1948, Arthur Edward Chegwin has given outstanding leadership in the promotion of dental health through preventive measures. Courageous and persistent, he has accomplished much despite public apathy towards

dental health. Many of his aspirations are, by force of circumstance, at present unrealized, but as retirement draws near, he leaves a legacy of practical and effective program planning which some day will surely be implemented.

After graduation from the Royal College of Dental Surgeons of Ontario in 1919, Dr. Chegwin engaged in dental practice in Moose Jaw, Saskatchewan. Here his work with school children convinced him of the great need for dental health education and since then he has been a consistent and persistent advocate of better dental health through preventive measures rather than through dental repair.

A veteran of two world wars, Dr. Chegwin has been the epitome of the good citizen. Through the years he has given freely of his time and talents as municipal councillor and in church work. His experience as a member of relief committees and as chairman of the Moose Jaw Hospital Board during the great depression helped him to become a staunch advocate of hospital insurance and other prepaid services.

Dr. Chegwin obtained his diploma in dental public health from the University of Toronto in 1949. In 1957 he was made a Fellow of the International College of Dentists, Canadian Section. A former member of the Canadian Dental Association's Council on Dental Research and of the Council of the College of Dental Surgeons of Saskatchewan, Dr. Chegwin is an active member of the Regina, Saskatchewan, Dental Society and of the Canadian Dental Association.

Taking a keen interest in the development of public health, Dr. Chegwin took a leading role in the organization of the Saskatchewan Branch of the Canadian Public Health Association and served for two years as its first president. He is presently chairman of the dental section of the Canadian Public Health Association.

PERSONNEL IN THE NEWS

T. L. Marsh, who recently retired from the armed forces as Commanding Dental Officer (Quebec Command), joined the Bureau of Dental Services, Manitoba Department of Health at the end of July. Dr. Marsh will have dual responsibilities, lecturing in dental public health at the Faculty of Dentistry, University of Manitoba and acting as regional dental director of health units in the Greater Winnipeg Area.

W. C. King of the Bureau of Dental Services, Manitoba Department of Health, left

for the University of Toronto at the end of July to enrol in the diploma course in dental public health.

TORONTO'S DENTAL DIRECTOR LISTS ACCOMPLISHMENTS AND PROBLEMS OF 1960

The 1960 Annual Report of Dr. H. S. Grey, director of Dental Services, Toronto Department of Public Health, describes that city's dental health program. 106,840 elementary and secondary school children out of a total school population of 116,352 received screening examinations during the year. 46,037 children did not require attention at the time of the examination. 68,738 notifications in respect of specific dental defects (dental caries, space maintenance, malocclusion, oral hygiene, gingivitis and other defects) were issued.

6,971 children in the odd age groups from three to nineteen years received detailed examination. 29.51 per cent had no dental defects. 38.50 per cent had no caries defects. The average number of permanent and deciduous teeth needing restoration was 2.09. 10.20 per cent of the children were caries-free. The average DMFT and DEFT indices were 3.72 and 2.68 respectively. An improvement is noted in a comparison of most of the dental health indices between the years 1955 and 1960.

20,733 patients were seen in the course of 40,415 clinic attendances at the department's clinics. Of this number 10,038 patients received complete dental (caries) treatment, the average child requiring just in excess of three half-hour clinic attendances per case completion. Eighty-nine per cent of all case completions occurred in children below the age of ten.

The experimental Riverdale Preschool Teaching and Demonstration Project, initiated in 1955, was successfully concluded during the past year. Decision was made to incorporate this activity as part of the regular program and to extend preschool teaching and demonstration projects gradually to the other seven health districts of the city.

A clinical investigation into the effects of annual single topical applications of an 8 per cent solution of stannous fluoride upon the incidence of dental caries in the deciduous dentition, commenced in September 1957, was concluded during the past year. Children who had received stannous fluoride applications experienced a lower DEF surface increment of 16.4 per cent after the first year and 29.5 per cent after the second year as compared to the control group. A two-year decrease of 31.9 per cent was experienc-

ed in the DEF surface increment for interproximal surfaces alone.

Referring to the continuing growth of the school population, a good deal of which is occurring in congested downtown areas, Dr. Grey mentions the ever increasing demand for dental care being experienced by an already overtaxed clinical staff. Private dentists within the city appear to be taxed to

capacity in caring for those patients already under their care; hence increasing difficulty is being experienced in arranging referrals for treatment through private dentists and the number of children exhibiting complete dental neglect continues to rise. The replacement of dentists on the eight dental inspection teams by dental hygienists and expansion of the clinical personnel are considered as necessary measures.

BOOK REVIEWS

Applied Dental Anatomy

Prepared by: N. M. Brescia.

Published by: The C. V. Mosby Co., St. Louis, 1961.

Pages: 212. Illustrated. Price: \$7.50.

For many years, teachers of dental anatomy have sought a better method of integrating and correlating information taught in the basic science courses with clinical practice.

This book endeavours to teach the student the application of theoretical knowledge acquired from the course in dental anatomy, to the various branches of dental treatment such as operative dentistry, orthodontics, endodontics, periodontics, etc. This book has accomplished the task to a greater degree than any other textbook so far published.

The illustrations and photographs are very good and in sufficient number to give the student a mental image of what he is studying. The description of the teeth and associated structures is simple and concise, making the book an invaluable aid to the student. According to this reviewer, too much emphasis has been placed in the past on minor anatomical detail and descriptions, making a parrot of the student, and clouding the whole objective of the course so that he fails to retain what is considered necessary for a proper understanding of the teeth and their related structures.

This reviewer feels Dr. Brescia's text will help both student and teacher to realize that

while mechanical procedures play a large role in dental practice, their application without consideration of the physiology of the structures concerned will only result in damage and premature loss of the teeth and their supporting structures.

The role of the teacher is to motivate and instil in the student the desire to retain what he has learned in his preclinical courses and to apply this knowledge to clinical practice. While some parts of this book are not as complete as might be desired, it is nevertheless worthy of consideration as a textbook of dental anatomy for students.

J. P. McGuigan

Synopsis of Oral Pathology

Prepared by: S. N. Bhaskar.

Published by: The C. V. Mosby Co., St. Louis, 1961.

Pages: 502. Illustrated. Price: \$9.75.

According to the preface this book is a "summary of oral pathology, written specifically for the dental practitioner and the dental student". Part 1 is a diagnostic classification of oral pathology presented in the form of a chart which lists the usual location, usual age, predominant sex, clinical features, histology, treatment and prognosis of innumerable lesions grouped in twelve tables. These tables occupy seventy-five pages. Part 2 is a true synopsis of oral pathology, with

three chapters devoted to general principles, such as inflammation, and the remainder to those oral lesions usually covered in textbooks on oral pathology.

Part 1, the classification according to clinical features, adds a great deal to the value of the book as far as the dental practitioner is concerned. It is detailed enough to enable him to reduce considerably the field of diagnostic possibilities presented, for example, by a white lesion in the mouth. Treatment is also mentioned. Once the field has been narrowed down a sound diagnosis can be arrived at by using the more detailed description of diseases found in Part 2.

One might criticize Part 1 on three counts. The first is that the mention of treatment is often not quite enough to act upon. Secondly, the author's statements on page 88 regarding the limitations of the tables should have been stated in the preface. And thirdly, a minor typographical error is that *Mycostatin* (brand of nystatin) becomes *Micostatin* on page 19 and *Microstatin* on page 37.

Part 2 is an excellent summary of oral pathology. The comments are brief and to the point and each chapter is very well organized. The dental practitioner will find it much easier to understand than more detailed accounts in larger textbooks. The dental student will find its simplicity a great aid in organizing the mass of knowledge that is oral pathology. Both groups of readers will find the numerous photographs, radiographs, drawings and well labelled photomicrographs of assistance in understanding the various diseases.

Minor criticisms pertaining to the illustrations are that Figure 18 looks remarkably like hereditary enamel hypocalcification rather than hypoplasia; the radiographs in Figures 81 and 145 are upside down; and Figure 9 is a poor reproduction.

The book is attractively printed, moderately priced and can be highly recommended to the dental profession.

K. A. McMurchy

Color Atlas of Oral Pathology

Prepared by: R. A. Colby, D. A. Kerr and H. B. G. Robinson.

Published by: J. B. Lippincott Co., Philadelphia and Montreal, 1961. Ed. 2. Pages: 201. Illustrated. Price: \$14.60.

This new second edition of the *Color Atlas* is published under the authorship of the above mentioned who were also responsible for the first edition under the auspices of the U.S. Navy. The policy of providing a quick, handy reference in the form of a book of pictures has been adhered to. The accompanying text is necessarily brief and is not

meant to be a substitute for textbooks on the subject.

The text has been augmented by the addition of twenty-four more illustrations to extend the coverage on anomalies of the tongue, periodontal cysts, dentine dysplasia and malignant metastases in the oral cavity. There has been extensive re-writing of the text throughout while retaining its juxtaposition to the appropriate picture. The coloured pictures themselves are of high quality and appear to have an even better colour balance than those of the first edition. Following the main text is a classified bibliography that has been brought up-to-date and will provide the reader with all the additional information that could be desired.

This is a very good atlas that is a credit to authors and publishers alike.

H. A. Hunter

Pharmacology and Oral Therapeutics

Prepared by: E. C. Dobbs.

Published by: The C. V. Mosby Co., St. Louis, 1961. Ed. 13.

Pages: 578. Illustrated. Price: \$10.00.

This is an excellent book for both students and practitioners. In a field of study where well organized and easily read reference books are rare, this edition will be valuable. The improvements in presentation and the orderly fashion in which the basic principles of drug action are discussed is notable as in previous editions. This book will serve as a lasting background for yearly changes in pharmacology and therapeutics which cannot be properly followed in less informative books. The American Dental Association's *Accepted Dental Remedies* and Dobbs' *Pharmacology and Oral Therapeutics* should be ideal companions in a dentist's library.

C. Reynolds

Orthodontics, Principles and Practice

Prepared by: T. M. Graber.

Published by: McAnish & Co. Ltd., Toronto and Vancouver, for W. B. Saunders Co., Philadelphia, 1961.

Pages: 805. Illustrated. Price: \$18.50.

Dr. Graber is an orthodontic teacher of long experience and therefore was well prepared to write a book which would serve as a text for the dental student and a guide for the general practitioner of dentistry.

This book, which serves its purpose in an admirable fashion, is divided into 18 chap-

ters which contain valuable information on cranio-facial growth and development, the physiology of the stomatognathic system, the incidence, recognition, aetiology and unfavourable sequelae of malocclusion and the biomechanical principles of orthodontic tooth movement.

In addition to the light it casts on modern theories and concepts, this information also teaches the dental student that the specialty of orthodontics is a difficult one and that he should avoid the pitfall of undertaking orthodontic correction beyond the scope of his training and experience. However, it will also teach him how he can apply orthodontic principles to the broad spectrum of associated problems and render preventive, interceptive, and limited corrective assistance.

The last part of the book which deals with orthodontic appliances and treatment philosophy, dental care during orthodontic therapy, preventive orthodontics, interceptive

tive orthodontics, control of abnormal habits, technique of serial extraction, limited corrective orthodontics and extra-oral forces is very well done, and contains much information not usually discussed in periodical literature.

To those who are familiar with orthodontics, this book will prove interesting reading and a valuable addition to their library because they will find in this text a significant list of bibliographical references and an admirable chapter on "Biomechanical Principles of Orthodontic Tooth Movement".

To the general practitioner of dentistry, it will serve as a guide in managing those orthodontic problems and techniques with which he must be prepared to deal.

Dr. Graber is to be congratulated on the completion of this arduous and exacting contribution to the literature of orthodontics.

Paul Geoffrion

THE LIBRARY

Additions

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE. Calcification in biological systems. Edited by Reidar F. Sognaes. Washington, 1960. 511p. illus.

AMERICAN DENTAL ASSOCIATION, COUNCIL ON DENTAL EDUCATION & AMERICAN ASSOCIATION OF DENTAL SCHOOLS. Conference on utilization and training of dental assistants, September 13-15, 1960. Chicago, 1960. 151p.

COHEN, M. M. Pediatric dentistry. 2nd ed. St. Louis, Mosby, 1961. 567p. illus. \$15.00.

DREIZEN, S. and STONE, R. E. Nutritional deficiency stomatitis. (Practical Dental Monographs, Sept. 1961.) 31p. illus.

FRANCIS, L. E. and WOOD, D. R. Dental

pharmacology and therapeutics. Philadelphia, Saunders, 1961. 288p. \$6.50.

MACDOUGALL, J. C. and NIXON, G. S. A guide to dental therapeutics. London, Cassell, 1961. 223p. \$3.05.

SOMERS, H. and SOMERS, A. Doctors, patients, & health insurance. Washington, The Brookings Institution, 1961. 576p. tables. \$7.50.

TOVERUD, G., RUBAL, L. and WIEHL, D. G. The influence of war and postwar conditions on the teeth of Norwegian school children. Part IV—Caries in specific surfaces of the permanent teeth. Reprint from The Milbank Memorial Fund, New York, July 1961. Vol. XXXIX, No. 3, 1961. Pages 489-539.

IN MEMORIAM

C. J. Madill—Dr. C. J. Madill of Edmonton, Alberta, died on September 20, 1961. He was 86.

Dr. Madill was born in Uxbridge, Ontario, in 1875. He graduated from Northwestern University in Chicago in 1910, and set up practice in his home town at that time. He retired in 1954.

Surviving are his son, Floyd and grandson, Robert, both of Calgary; and a sister, Mrs. Carrie Booth, of McGregor, Manitoba.

Albert W. McCabe—Dr. Albert W. McCabe of Richmond, P. Quebec, died in October, 1961. He was 79.

Dr. McCabe was born in Windsor Mills, P. Quebec in 1882. He studied at Bishop's University in Montreal and graduated in 1906. Dr. McCabe practised in Richmond from his graduation year until his retirement, eight years ago.

Surviving are his wife, Mabel; a son, Oswald; a daughter, Mrs. R. N. Quinn (Maureen); a brother, Joseph; and two sisters, Mrs. Leo Walsh and Mrs. Albertine Champagne, both of Sherbrooke.

Ernest Carlyle McDonald—Dr. Ernest Carlyle McDonald of Woodbridge, Ontario, died on September 17, 1961. He was 76.

Dr. McDonald was born in Waterloo County, Ontario in 1885. He graduated from the Royal College of Dental Surgeons of Ontario in 1912.

Surviving are his wife, Irene; sons Dr. Donald B. of Vancouver, William, Charlton, Murray and Neil of Toronto; daughter Mrs. J. Smelko (Elizabeth) of Cornwall; brother Dr. W. H. McDonald of Toronto and sister Jean McDonald of Galt.

Charles Harry Weicker—Dr. Charles Harry Weicker of Regina, Saskatchewan, died on July 15, 1961. He was 72.

Dr. Weicker was born in Preston, Ontario, in 1889. He graduated from the Royal Col-

lege of Dental Surgeons of Ontario in 1910 and subsequently established a practice in Regina. Dr. Weicker was a past president of the Regina Dental Society, a former secretary of the Saskatchewan Dental Association and an examiner of the Dominion Dental Council.

Surviving are his wife, Elsie; two sons, Dr. Merrill Weicker of Regina and Donald of Calgary; and four brothers, Aylmer, Willis, Maurice and Percy of Regina and New Hamburg, Ontario.

Harry John Wildfong — Dr. Harry John Wildfong of Toronto, Ontario, died on August 27. He was 51.

Dr. Wildfong was born and received his early education in Toronto. He graduated from the Faculty of Dentistry, University of Toronto, in 1936 and set up practice in Toronto.

Dr. Wildfong was a member of the Toronto East Dental Society, having served on the society's executive committee in 1939-40. He also had dental connections with the Toronto Western Hospital. During the second world war he served as a lieutenant in the Canadian Dental Corps.

He is survived by his widow, Kay; two children, Nancy and Kim; and a sister, Mrs. H. T. Wharton.

Russell Clifford Wood—Dr. Russell Clifford Wood of Tottenham, Ontario, died on August 28. He was 68.

Dr. Wood was born at Athens, Ontario, and received his early education at Orangeville. He graduated from the Royal College of Dental Surgeons of Ontario in 1917. He practised in Toronto until 1919 after which he moved to Tottenham. Dr. Wood was a past president of the Simcoe County Dental Society.

Surviving are three brothers, Rev. Kenneth, Charles and Arthur; and three sisters, Mrs. C. V. Pond, Mrs. F. C. McLeod and Mrs. E. Rowen.

ANNOUNCEMENTS

Conventions of the Canadian Dental Association

1962	Vancouver, British Columbia	June 3-6
1963	Toronto, Ontario	May 19-22
1964	Edmonton, Alberta	June 28-July 1
1965	Quebec City, Quebec	May 30-June 2
1967	Toronto, Ontario (Centennial Celebration of Dentistry in Canada)	May

FUTURE EVENTS

Date	Function	Location	Officer	Address
Nov. 12-19, 1961	Uruguay-Argentine Intl. Dental Congress	Montevideo, Uruguay	Dr. J. C. Turrell	Av. Agraciada 1464 (P.13), Montevideo, Uruguay
Nov. 20-26, 1961	Congrès de l'Entente Odontologique	Porte de Versailles, France	Dr. J. L. Dephilippe	39 Boulevard Malesherbes, Paris 8e, France
Nov. 14-18, 1961	Austrian Dental Society Jubilee Congress	Vienna, Austria	Dr. G. Rothbauer	Langeasse 9, Vienna 8, Austria
Nov. 19-23, 1961	VI Biennial Mexican Dental Congress	Mexico City, Mexico	Dr. A. Chisikovsky Perks	Sinaloa No. 9, Mexico 7, D.F., Mexico
Nov. 23, 1961	Academy of Dentistry, Toronto, Winter Clinic	Royal York Hotel, Toronto	Mrs. N. H. Montgomery	230 St. George St., Toronto 5, Ont.
Dec. 27-31, 1961	Alpha Omega Fraternity National Convention	Queen Elizabeth Hotel, Montreal	Dr. F. Vosburg	5292 Queen Mary Road, Montreal, P. Que.
May 13-16, 1962	Ontario Dental Association Convention	Royal York Hotel, Toronto	Mrs. A. Durham	230 St. George St., Toronto 5, Ont.
June 21-23, 1962	Atlantic Provinces Dental Convention	Digby Pines Hotel, N.S.	Dr. D. C. Eaton	Farquhar Bldg., Halifax, N.S.

POSTGRADUATE AND REFRESHER COURSES (CANADA)

DALHOUSIE—The Departments of Oral Diagnosis and Radiology, Faculty of Dentistry, Dalhousie University offer a postgraduate course in **RADIODONTICS and ORAL DIAGNOSIS**, November 27 to December 1. The course will consist of didactic instruction as well as practical participation. Radiation hazards and their control, radiographic technique and interpretation will be covered. Diagnosis and treatment planning will be covered in various special fields such as orthodontics, periodontics and prosthodontics. Practical diagnostic seminars will be offered by means of case presentations. Oral manifestations of systemic diseases will be covered by members of the medical staff. This course will be under the joint direction of Drs. H. M. Eaton and R. H. Bingham, who will be assisted by the dental and medical staff of Dalhousie University. Tuition fee \$75.

Inquiries and requests for application forms should be directed to the Dean, Faculty of Dentistry, Dalhousie University, Halifax, Nova Scotia.

TORONTO—The Department of Paedodontics, Faculty of Dentistry, University of Toronto offers a postgraduate course in **PAEDODONTICS**, January 8-9, 1962. The course will cover the broad field of dentistry for children, with emphasis on disease prevention. Examination of children, case management, treatment procedures, nutrition in relation to paedodontics, and manifestations of systemic disease will all form part of the discussions. The course will be directed by Dr. S. A. MacGregor. Tuition fee \$40.

Inquiries and requests for application forms should be directed to the Chairman, Division of Postgraduate Studies, Faculty of Dentistry, University of Toronto, 124 Edward Street, Toronto 2, Ontario.

POSTGRADUATE AND REFRESHER COURSES (U. S.)

ALABAMA—January 15-19, 1962—Preventive Dentistry

ALABAMA—January 20-22, 1962—Children's Dentistry

ALABAMA—January 27-29, 1962—Statistics in Dentistry

NORTHWESTERN—December 4-6, 1961—Functional Analysis and Treatment of the Masticatory System
—for the Orthodontist

NORTHWESTERN—January 22-24, 1962—Functional Analysis and Treatment of the Masticatory System
—for the General Practitioner

NORTHWESTERN—February 12-14, 1962—Basic Cephalometric Radiography

NORTHWESTERN—February 15-16, 1962—Paedodontics

OHIO STATE—January 22-24, 1962—Hospital Management for Dental Procedures

OHIO STATE—January 25-27, 1962—Clinical Periodontics

OHIO STATE—January 31-February 2, 1962—Crown and Bridgework

PENNSYLVANIA—February 5-9, 1962—Periodontal Prosthesis

PENNSYLVANIA—February 26-March 2, 1962—Partial Denture Prosthodontics

TEMPLE—January 8-12, 1962—Implant Dentures

TUFTS—February 7-9, 1962—Hospital Management of the Dental Patient

TUFTS—February 15-16, 1962—Crown and Bridge Design and Construction

YESHIVA—January 25-26, 1962—Pharmacology

Other information concerning dental meetings outside Canada is available at C.D.A. headquarters upon request.

L'Association Dentaire Canadienne.

JOURNAL

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Méthode standard pour radiographies inter-proximales ("bite-wing")*

par LOUIS J. BAUME,,† D.M.D., M.S. et A. P. RORDORF, D.M.D., Genève,
Suisse

Une reproduction exacte de radiographies dentaires prises en série est exigée pour des buts scientifiques et pratiques, soit la recherche concernant le développement normal des structures bucco-dentaires ou leur pathogénie propre, soit l'appréciation clinique concernant l'efficacité des mesures prophylactiques ou thérapeutiques en tant qu'enquêtes statistiques. Pour que les données sur la fréquence des affections bucco-dentaires soient valables et comparables sur le plan

international, il est nécessaire de standardiser les méthodes d'examen et d'enregistrement.^{5,6}

Au début, les radiographies servaient à examiner la partie non-visible des dents, racine et tissu osseux environnant. En 1926 H. R. Raper¹⁶ préconisa l'emploi des radiographies pour examiner les faces proximales des dents postérieures, les collets et les rebords alvéolaires. Il se servit d'un film de 3-4 cm comportant en son milieu une petite languette de carton perpendiculaire à son plan et destinée à être mordue. Le film se plaçait ainsi automatiquement à l'intérieur des arcades en occlusion. Actuellement ce principe est

*Travail partiellement présenté lors d'une visite à la Faculté de chirurgie dentaire, Université de Montréal, en tant que professeur invité.

†Président, F.D.I. Commission d'Etude des statistiques bucco-dentaires.

toujours le même, seules les dimensions des films ont pu varier.

Ces radiographies furent d'abord appelées "Raper Bite-Wing Film", puis simplement "Bite-Wing".¹⁰ Bertrand-Dechaume - Lacronique⁹ les appellent "radiographies inter - proximales" ou "radiographies intra-orales rétro-coronaires". Le premier terme semble être le plus juste.

Pour que les radiographies qui ont été prises successivement dans une même région bucco-dentaire soient comparables exactement, il faut:

- que l'incidence des rayons reste constante;
- que les films occupent une position identique par rapport à la région à radiographier.

F. W. McCormack¹³ et G. M. Fitzgerald¹¹ ont mis au point, les premiers, la technique du long cône ou téléradiographie intrabuccale permettant de prendre des radiographies avec un minimum de déformations. Ils ont préconisé les trois principes suivants:

- augmenter la distance foyer-objet,
- ponctualiser au maximum la source d'émission des rayons,
- paralléliser le plan du film à l'axe des dents.

Pour garantir la direction orthogonale des rayons, H. H. Benkow⁷ attache au long cône un porte-film dans un système rigide. L. B. Spear¹⁸, pour indiquer le rayon central, emploie un tube en plastique avec croix axée à l'extrémité.

O. Backer-Dirks¹ a créé un porte-film solidaire de l'appareil de radiographies pour prise standard de radiographies inter-proximales. Son porte-film consiste en un anneau fixé au cône de l'appareil et supportant par une tige rigide une plaque métallique. Le film est fixé sur cette plaque qui joue le rôle de l'aile de la radiographie inter-proximale et se place entre les dents. Grâce à deux repères métalliques, elle peut être placée toujours au même endroit entre les arcades dont on veut obtenir des radiographies successives. Il existe une plaque

porte-film pour chaque côté et une pour les dents antérieures.

Pour vérifier la reproduction, O. Backer-Dirks prend deux séries successives de radiographies et compare le nombre des faces proximales visibles, c'est-à-dire ne présentant pas de superpositions. Il arrive à la conclusion que dans 96% des cas, avec cette méthode, les faces proximales sont nettes. En comparant de la même façon dans chaque série le nombre de surfaces proximales cariées, il arrive au résultat que le nombre de caries proximales peut être déterminé de cette façon avec une erreur standard de 0.3%; cela représente la méthode la plus sûre, connue jusqu'ici, pour mesurer le taux et l'accroissement des caries par moyens cliniques. Cette méthode n'est donc employée que pour le dépistage des caries proximales; les statistiques ne reposent que sur le nombre des faces proximales visibles sans ou avec caries proximales.²

L'objet de ce travail sera donc d'étudier la reproduction des radiographies dentaires inter-proximales. On décrira d'abord une méthode standard permettant de prendre des radiographies successives d'une même région bucco-dentaire. Ensuite, nous déterminerons, au moyen de méthodes statistiques, sa variabilité et l'erreur de lecture.

MATÉRIEL ET MÉTHODE

1. *Porte-film—tube de l'appareil radiographique.*—Nous avons commencé cette étude en employant le porte-film conçu par O. Backer-Dirks. Bien qu'on puisse acquérir une certaine routine et une certaine rapidité pour une bonne prise régulière, nous avons constaté trois inconvénients:

(a) Le danger d'irradiation pour l'opérateur, surtout de sa main, étant donné que le porte-film est souvent à tenir à la main sur le cône lors de la prise des radiographies.

(b) Impossibilité d'obtenir l'occlusion des arcades dentaires, puisque les languettes métalliques augmentent l'espace entre les arcades et diminuent par conséquent l'image des parties alvéolaires.

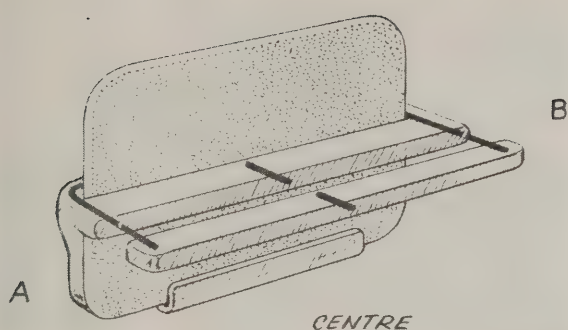


FIGURE 1 Porte-film pour radiographies construit en résine et fils d'acier et composé: (a) d'une semelle rigide pour tenir le film, et (b) de fils d'acier remplaçant la languette.

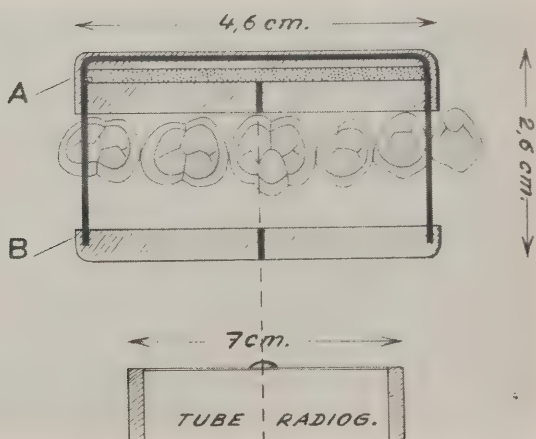


FIGURE 2 Aspect horizontal de l'emplacement du porte-film et position du tube radiographique.

(c) La nécessité d'attacher le porte-film sur l'appareil de radiographie, exactement dans l'axe du rayon principal, due à l'emploi d'un petit cône.

Pour éviter ces désavantages, nous avons essayé d'abandonner le système rigide entre cône et porte-film. Nous avons réalisé un porte-film très simple; il se compose de deux parties solidaires (Figure 1):

—une semelle rigide en résine transparente (*Palavit*), ayant la même longueur que le film, mais la moitié de sa largeur (si on lui conserve la même largeur, elle peut traumatiser le palais) et ayant pour but de le tenir (voir Figure 1a);

—deux fils d'acier orthodontique de 8/10 jouent le rôle de la languette, per-

pendiculaire à cette semelle. Les deux fils d'acier sont d'un côté noyés dans la semelle, de l'autre reliés entre eux par une mince bande de résine parallèle à la semelle, donc au film. Elle indique la position de celui-ci quand les arcades sont en occlusion (voir Figure 1b).

Les deux fils ont pour but non seulement de maintenir le film parallèle à l'arcade, mais également de pouvoir replacer le film au même endroit afin de prendre une radiographie dans la même position que la première fois (Figure 2). Pour ceci, il suffit de placer le fil mésial entre -3 et -4 (ou 3- et 4-), de l'y maintenir et de faire mordre le patient sur ces fils. Ils sont peu encombrants, les arcades sont en occlusion (Figure 3).

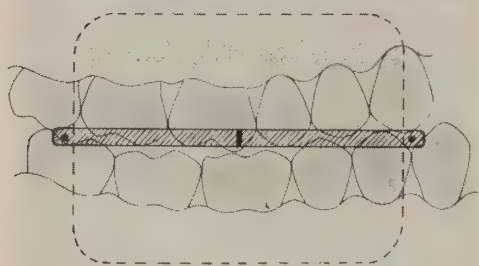
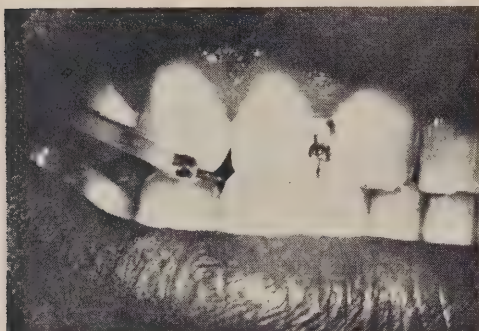


FIGURE 3 Position du porte-film en bouche avec arcade en occlusion.

Nous avons utilisé un long-cône de 20 cm., monté sur un appareil Ritter, modèle B, réglé sur 120 volts et 10 ma. Avec ce long cône, nous avons appliqué la méthode de L. B. Spear, ce qui élimine la nécessité de fixer le porte-film à l'appareil exactement dans l'axe du rayon principal, puisque les rayons deviennent tous parallèles au rayon principal. Ce rayon central a toujours été visé dans une direction orthogonale film—long cône (inclinaison de 5° à 10°) sur le trait indiquant le centre du porte-film (Figure 4).

2. *Film.*—Des films Kodak Ultra-Speed DF57 de 3-4 cm. doubles furent utilisés. Le temps de pose était de 8/10 de sec. pour les enfants et de 1 sec. pour les adultes. Ils ont tous été développés par le même opérateur avec des produits de la même marque (Kodak), la température du révélateur étant maintenue constante

à 20° C et le temps de développement à 4½ minutes.

3. *Patients.*—37 sujets âgés de 14 à 30 ans et pris au hasard ont été radiographiés selon la méthode indiquée. A chacun, il a été pris à l'aide de ce porte-film deux radiographies inter-proximales, soit une de chaque côté. Après un certain temps, variant de 1 jour à 1 mois, une deuxième série fut prise. Ce laps de temps n'était que le fait du hasard.

On a ensuite tiré chaque radiographie sur papier Kodak F3 en les agrandissant trois fois, soit format 9x12 cm. Ceci permettait de mieux comparer les radiographies prises dans la même région à des moments différents.

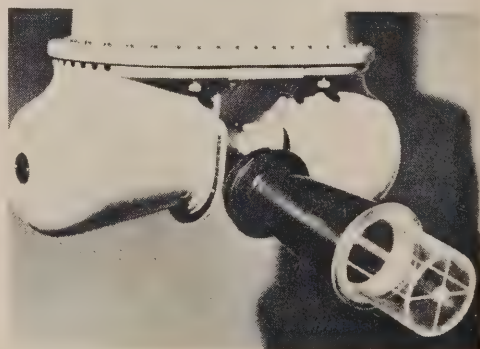
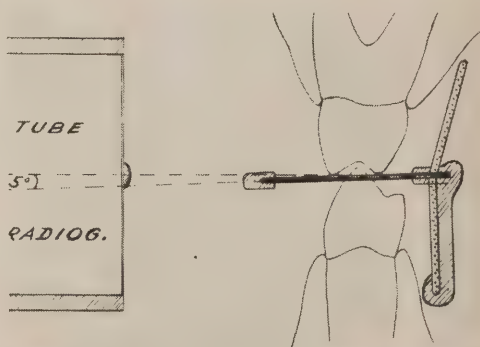


FIGURE 4 Aspect transversal indiquant la position du tube radiographique long cône avec croix axée de L. B. Spear en relation avec le porte-film.

4. *Mesures.*—Sur chaque agrandissement, nous avons mesuré les dents à leur collet, exactement à la limite émail-cément. Seules les dents qui présentaient ces jonctions parfaitement nettes furent mesurées (Figure 5).^{*} Nous avons utilisé pour mensuration un pied-à-coulisse dont une extrémité des branches se terminait en pointe, permettant une lecture au 1/10 de mm. Toutes ces mesures effectuées par le même opérateur furent reportées sur le tableau 1. Ces mesures ont servi à déterminer l'ordre de grandeur des erreurs suivantes:

(a) Erreur commise lors de la lecture des radiographies inter-proximales.

(b) Erreur survenant lors de la prise d'une radiographie de contrôle.

(c) La variabilité des dimensions dentaires entre les individus.

Les calculs statistiques furent effectués par le Service de Statistique Mathématique du Professeur A. Linder (Université de Genève).

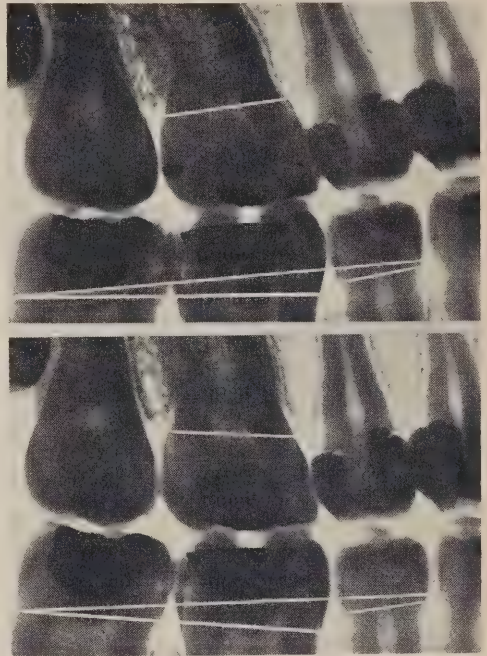


FIGURE 5 Mesures prises sur deux radiographies inter-proximales prises en série (voir texte). Cas D. 1941. Agrandissement original 3X.

*L'ombre cervicale, dont l'origine est encore en discussion¹⁴ se manifeste d'habitude au-delà de cette jonction émail-cément.

TABEAU 1 Mesures des dents à leur collet.

Noms	Côté	Rx	Dents supérieures				Dents inférieures			
			4	5	6	7	4	5	6	7
M. "X"	D	1	*	16,0	28,6	26,9	*	16,8	28,0	28,7
		2	*	15,5	27,1	25,0	*	16,4	29,2	30,0
	G	1	14,0	16,0	25,3	*	*	17,3	28,5	30,2
		2	14,2	15,7	25,0	*	*	17,6	28,2	30,0
M. "Y"	D	1	13,7	15,0	*	26,1	*	15,6	29,0	33,1
		2	13,0	14,8	*	26,0	*	15,5	28,6	33,0
	G	1	13,5	17,3	26,3	24,6	*	16,4	28,7	30,2
		2	13,0	17,5	25,7	24,5	*	16,7	28,6	31,0
M. "Z"	D	1	*	13,8	†	30,7	*	16,6	†	27,8
		2	*	14,7	†	28,5	*	15,6	†	27,5
	G	1	14,9	15,2	*	*	*	18,5	†	27,0
		2	15,9	14,8	*	*	*	16,6	†	28,0

1 radiographie de la première série

2 radiographie de la deuxième série

* indique les dents qui n'ont pas pu être mesurées (limites peu nettes dues à des obturations, superpositions, etc.)

† indique les dents absentes de l'arcade

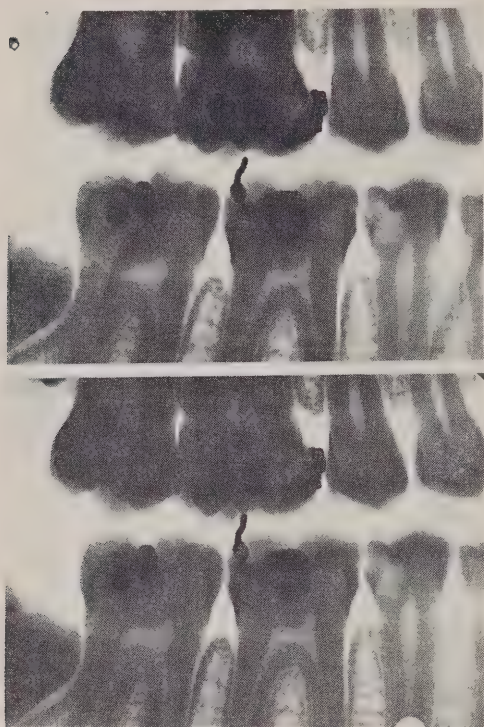


FIGURE 6 La constance de la netteté de l'image et de la richesse de détails structuraux des radiographies interproximales lors de leur reproduction est montrée. Cas S. 1944. Agrandissement original 3X.

RÉSULTATS

Les radiographies ont été évaluées—sur agrandissement—d'après les trois critères: (1) netteté de l'image radiographique, (2) richesse de détails des structures normales et pathologiques, (3) reproduction de la forme et de la dimension des tissus radiographiés, analysée par méthode statistique.

1. La netteté de l'image

La netteté de l'image dépend du contraste qui existe entre les différents tissus radiographiés. Elle sera nette si la jonction entre les différents tissus durs

(émail, dentine et pulpe) est parfaitement délimitée. Ces contrastes existent sur toutes les radiographies; toutes les images obtenue chez les différents individus et dans chaque série sont de qualité égale. La variation de densité qui peut être parfois constatée dépend de l'épaisseur des structures radiographiées, variant chez chaque individu (Figure 6).

Les tissus osseux également sont reproduits avec netteté. Les parties corticales et spongieuses de l'os alvéolaire, les crêtes interdentaires sont clairement discernables. Puisque l'espace entre arcades reste minime ou nul—il dépend souvent de la force appliquée sur le porte-film par le patient—, une grande partie de ces structures radiculaires est visible.

2. Les détails structuraux

L'examen approfondi de chaque agrandissement montre une grande richesse de détails structuraux que ce soit dans les états normal, pathologique et postopératoire (Figure 7).

Ces radiographies permettent une appréciation du pouvoir dentinogénétique de la pulpe. Par exemple, sur une dent atteinte d'une importante carie du second degré, il est facile de voir si de la dentine réactionnelle a été formée et a comblé une partie de la chambre pulpaire.

De même les calcifications pulpaire (pulpolithes) sont nettement montrées.

Au point de vue pathologique, c'est la méthode de choix pour le dépistage des caries proximales. Elles sont visibles quel que soit leur degré de pénétration, depuis la décalcification primaire jusqu'au second degré avancé.

Dans les états pathologiques osseux, toutes les lyses, générales ou localisées, sont indiquées, de même que les diminutions de densité osseuse.

Sur ces agrandissements, les petits calculs sériques sont visibles et localisés avec précision.

La forme et la qualité des obturations et surtout de leur point de contact et de leur bord cervical peuvent être appréciées à leur juste valeur.

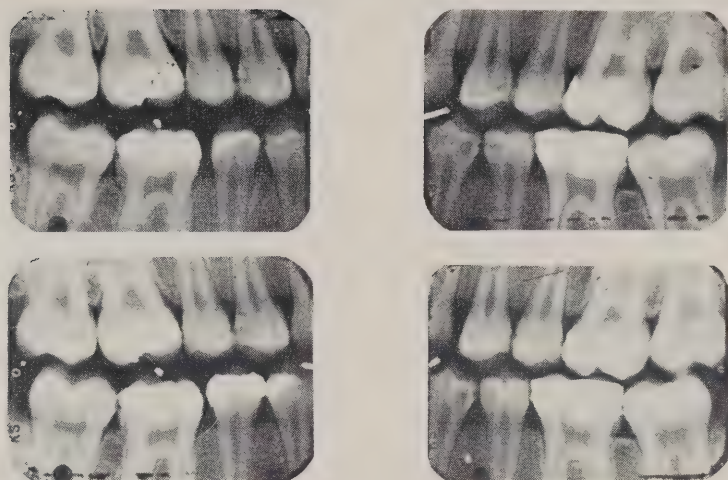


FIGURE 7 La richesse en détails structurels reste constante lors de leur reproduction. Cas M. 1945. Films originaux 1X.

3. Analyse de statistique

Les trois facteurs suivants sont à remarquer—l'erreur de lecture, l'erreur de prise et la variabilité individuelle.

(a) *Erreur de lecture.*—Toutes les mesures indiquées ont été prises sur les agrandissements. Elles correspondent

donc à 3 fois les dimensions sur les radiographies.

Le nombre de dents qui ont été mesurées, dans une série et dans les deux séries, et le nombre de mesures effectuées une seconde fois pour calculer l'erreur, sont indiqués dans le tableau 2.

Le tableau 3 indique la dimension

TABEAU 2 Le nombre de dents mesurées et le nombre de mesures effectuées.

Arcade	Nombre de dents				
	droite N_1	gauche N_2	total $N_1 + N_2$	total des deux séries $2(N_1 + N_2)$	lu deux fois L
Supérieure					
4	24	25	49	98	54
5	28	33	61	122	68
6	27	29	56	112	58
7	23	24	47	94	48
Inférieure					
4	1	2	3	6	..
5	30	33	63	126	70
6	27	29	56	112	56
7	30	26	56	112	64

TABEAU 3 La dimension moyenne de chaque dent.

Arcade	Nombre de dents	Dimensions moyennes en mm. (sur les agrandissements)
Supérieure		
4	98	14,55
5	122	15,83
6	112	25,72
7	94	24,60
Inférieure		
4	6	16,97
5	126	17,05
6	112	28,36
7	112	29,87

moyenne de chaque dent (dimension obtenue lors de la première lecture et sur les agrandissements).

Quand une mesure est effectuée, une erreur de lecture se produit invariablement. Mais cette erreur est une erreur personnelle qui varie avec chaque observateur. Donc pour qu'un travail de statistique tel que celui-ci soit valable, il faut d'abord déterminer l'erreur de lecture de l'observateur. Pour cela, une seconde lecture a été effectuée sur un certain nombre de radiographies, après un intervalle de 3 jours qui doit suffire pour garantir l'indépendance des deux

lectures. L'erreur moyenne est déterminée en calculant la déviation-standard *s* (Standard-deviation) qui est la mesure de variabilité à préférer pour plusieurs raisons.¹² Si la valeur obtenue à la première lecture est désignée par *x*₁, celle obtenue lors de la seconde lecture par *x*₁₁, *s*² est trouvée par la formule:

$$s^2 = S(x_1 - x_{11})^2 \div 2L$$

et *s* en prenant la racine carrée de *s*².

Le coefficient de variation *v*, qui indique le pourcentage d'erreur est donné par la formule:

$$v = 100 \frac{s}{x}$$

dans laquelle *x* est la dimension moyenne de chaque dent. Les résultats qui ont ainsi été obtenus se trouvent dans le tableau 4.

La déviation-standard *s* est donc de l'ordre de grandeur de 2/10 de millimètre (3*x*). Il est possible d'en déduire qu'une erreur de lecture de plus de 4/10 de mm. (3*x*) se produit avec une fréquence d'environ 5%, des écarts plus grands étant de moins en moins fréquents.

Le coefficient de variation pour cette erreur est compris entre 0,53% et 1,42%

(b) *Erreur de prise.*—Pour connaître l'erreur qui survient au cours de la prise d'une radiographie de contrôle, un calcul

TABEAU 4 Calcul de la déviation-standard et du coefficient de variation.

Arcade	L Nombre de doubles lectures	Déviation-standard <i>s</i> de l'erreur de lecture en mm. (sur agrandissement)	Coefficient de variation en %
Supérieure			
4	54	0,207	1,42
5	68	0,215	1,35
6	58	0,208	0,80
7	48	0,216	0,84
Inférieure			
4	..		...
5	70	0,238	1,39
6	56	0,188	0,66
7	64	0,161	0,53

TABLEAU 5 Calcul effectué pour connaître l'erreur qui survient au cours de la prise d'une radiographie de contrôle.

Arcade	Nombre de prises doubles (N ₁ +N ₂)	Déviati-on-standard s de l'erreur de prise en mm. (sur l'agrandissement)	Coefficient de variation en %
Supérieure			
4	49	0,327	2,24
5	61	0,380	2,40
6	56	0,427	1,64
7	47	0,709	2,47
Inférieure			
4	3		...
5	63	0,348	2,04
6	56	0,449	1,58
7	56	0,542	1,81

analogue a été effectué. Ce calcul est basé sur la différence entre les dimensions obtenues dans les deux séries de radiographies. Si x_1 est la dimension obtenue à la première prise, x_2 la dimension obtenue à la seconde prise, la déviation standard a été calculée selon la formule:

$$s^2 = S(x_1 - x_2)^2 \div 2(N_1 + N_2)$$

Les résultats de ces calculs sont condensés dans le tableau 5.

Les erreurs de prise sont plus grandes que les erreurs de lecture. En plus, l'erreur de prise augmente avec la dimension; elles est plus grande pour les dents dont la moyenne est grande et le coefficient de variation est compris entre 1,58% et 2,47%.

(c) *Variabilité individuelle.*—Enfin il a été calculé, à titre de comparaison et pour chaque dent séparément, la variabilité d'un individu à l'autre. La formule qui a permis de calculer la déviation-standard s de la variabilité entre sujets est la suivante:

$$s^2 = \frac{S(x_1' - \bar{x}')^2 + S(x_1'' - \bar{x}'')^2}{N_1 + N_2 - 2}$$

Dans cette formule, x_1' désigne une valeur individuelle à gauche, x_1'' celle de

droite; les valeurs moyennes de gauche et de droite sont $\bar{x}'$ et $\bar{x}''$; N_1 et N_2 représentent le nombre de dents à gauche et à droite.

Le coefficient de variation est compris entre 6,01% et 10,08%.

La variabilité entre sujets est supérieure aux erreurs de lecture et de prise. Ceci est normal, car, à chaque mesure faite sur un individu, il y a une erreur de prise et une erreur de lecture et ces erreurs sont incluses dans chaque mesure.

La déviation-standard de l'erreur de prise sera donc en général plus grande que celle de l'erreur de lecture, et la déviation-standard entre individus plus grande ou au moins égale à l'erreur de prise.

Mais il ne faut pas perdre de vue que les mesures indiquées ici ont été effectuées sur des agrandissements 3 x. Donc les erreurs réelles sur les radiographies sont trois fois plus petites que les mesures indiquées ici.

DISCUSSION

Dans les statistiques radiographiques, trois sortes d'erreur peuvent intervenir: (a) erreur de lecture, (b) erreur de prise, (c) erreur d'interprétation (cas limites).

TABLEAU 6 Calcul de la variabilité d'un individu à l'autre.

Arcade	Nombre de dents		Déviation-standard s entre individus en mm. (sur l'agrandissement)	Coefficient de variation en %
	gauche N ₁	droite N ₂		
Supérieure				
4	24	25	0,990	6,80
5	28	33	1,138	7,18
6	27	29	1,541	6,01
7	23	24	2,480	10,08
Inférieure				
4	1	2		...
5	30	33	1,160	6,80
6	27	29	1,835	6,47
7	30	26	1,980	6,62

L'erreur de lecture

L'erreur de lecture est commise, quand un observateur lit une mesure. Elle est personnelle et varie avec chaque personne. Ici toutes les mesures ont été effectuées par le même observateur et son erreur personnelle a pu être calculée. Elle est comprise entre 0,53% et 1,42%. S'il y a plusieurs observateurs, les erreurs s'ajoutent et l'erreur de groupe peut être déterminée de la même façon.⁸

L'erreur de prise

L'erreur de prise est la principale erreur. Dans notre étude, nous avons trouvé qu'elle varie entre 1,58% et 2,47%. Dans cette erreur, sont comprises les erreurs qui sont dues aux manipulations. Elles ont été réduites au minimum en tenant rigoureusement constante l'intensité de l'appareil, le temps d'exposition et le temps de développement, la température des bains, etc.

L'erreur d'interprétation

Par erreur d'interprétation, nous entendons l'erreur de diagnostic. La carie est un processus qui devient irréversible dès qu'une cavité est formée. Mais avant que cette cavité se forme, l'existence d'une

carie débutante ne peut être énoncée avec certitude (carie douteuse). Plus tard, quand la cavité existe, la limite exacte ne peut être non plus fixée. Ce sont les cas limites ou cas douteux (border line cases). Quand il y a superposition, même légère, de deux faces proximales, le diagnostic ne peut être prononcé sûrement.

L'erreur d'interprétation est difficile à exprimer par voie de statistique. Dans les enquêtes sur l'accroissement des caries, cette erreur se manifeste souvent par un renversement (reversal) du diagnostic: aucune lésion n'est trouvée lors du deuxième examen à l'endroit où antérieurement on avait noté une carie. Seule une description méticuleuse de la technique utilisée pour examiner et enregistrer les données permet l'élimination de l'erreur d'interprétation.

Il est alors possible d'appliquer la méthode standard de radiographies interproximales ici décrite à la recherche. Elle se prête au contrôle de l'efficacité d'un agent thérapeutique aussi bien sur l'évolution de la carie que des lésions parodontales. Il suffira de prendre des radiographies interproximales, d'appliquer le traitement, puis de prendre des radiographies de contrôle après un certain laps de temps. Connaissant l'erreur qui existe entre deux radiographies successives, on jugera alors de l'effet de la thérapeutique.

Ce sera également la méthode de choix pour effectuer des études cliniques concernant l'accroissement des caries proximales dans différents groupes d'individus, ainsi que l'a démontré O. Backer-Dirks.²

La dentinogenèse pourra être suivie de la même façon, en comparant les dimensions des chambres pulpaire avant et après un traitement, ainsi que l'a proposé Baume.^{3,4}

Pour calculer les indices de perte osseuse, il sera possible de se servir efficacement de radiographies inter-proximales en série standard, soit selon la méthode de A. L. Russel¹⁷, soit selon celle de S. P. Ramfjord.¹⁵

RÉSUMÉ

Les méthodes utilisées pour noter, enregistrer et présenter les données concernant les affections bucco-dentaires doivent être standardisées, si l'on veut obtenir des résultats reproductibles comparables sur le plan international et d'un degré d'exactitude connue.

Il est décrit ici une méthode permettant une reproduction exacte de radiographies inter-proximales, lors de leur prise en série. Elle consiste dans l'emploi d'un porte-film de construction personnelle, utilisé avec la technique du long-cône—système Spear. Un procédé standard de prise de radiographie et de développement a été établi.

Cette méthode a été employée sur 37 patients, auxquels nous avons fait 74 radiographies inter-proximales dont chacune a été reprise au hasard. Un total de 148 radiographies a été évalué — sur agrandissement — d'après les trois critères: (1) netteté de l'image radiographique, (2) richesse de détails des structures normales et pathologiques, (3) reproduction de la forme et de la dimension des tissus radiographiés, analysés par méthode statistique. A cet effet, 782 dents ont été mesurées sur les agrandissements des radiographies. Ce nombre a été suffisant pour calculer l'erreur de prise, l'erreur de lecture et la variabilité

individuelle de chaque sujet. Le coefficient de l'erreur de prise est compris entre 1,58% et 2,47%. Le coefficient de l'erreur personnelle de l'observateur est compris entre 0,53% et 1,42%. La variabilité individuelle de chaque individu est comprise entre 6,01% et 10,08%.

La méthode se prête donc à la recherche clinique, soit sur le développement normal des structures dentaires, soit sur leur pathogénie propre, soit sur l'appréciation clinique des mesures thérapeutiques ou prophylactiques en tant qu'enquêtes statistiques.

SUMMARY

Unification of statistical technique is needed in order to establish reproducible methods for detecting, recording and reporting oral and dental conditions so that the results are internationally comparable and have a known level of accuracy.

The present study deals with the reproducibility of bite-wing radiographs using a standardized technique. The appliances employed consisted of a new simplified film holder and a flat ended 20 cm. extension tube of an ordinary dental x-ray unit the centre of which was marked at its outer end by a cross thread. The tube's centre point is related in an orthogonal position and 5-10 degree vertical inclination to the centre mark of the film holder. Film holder and extension tube thus are not connected in a rigid system such as devised by O. Backer Dirks. This has the advantage of easier management especially in children, better closure of both arches with less empty space on the film, and more periodontal structures visible and greater radiation protection for the dentist.

37 patients, sampled at random, were given 74 bilateral radiographic examinations using this bite-wing technique. A second series of bite-wing radiographs were made of the patients within a haphazard period. The reproduction of these bite-wing films—a total of 148—was then evaluated according to the following

criteria: (1) contrast and density, (2) richness of structural details, and (3) variation of dental forms and dimensions.

On photographic reproductions, magnified three times, 782 measurements were taken in order to calculate the following variations involved: (a) the personal error committed when reading any measurement. This reading error expressed as a personal variation coefficient was between 0.53 per cent and 1.42 per cent; it can be considered negligible. (b) The method error committed when retaking a bite-wing film according to the technique described was somewhat higher but still insignificant. The variation coefficient ranged from 1.58 per cent to 2.47 per cent. (c) The coefficient of natural variation of the tooth dimensions measured was between 6.01 per cent and 10.08 per cent.

The standardized technique here presented proved to be appropriate for taking identical bite-wing radiographs in series. It should be useful in conducting clinical surveys of normal and pathological tooth development, as well as in clinical trials testing statistically control measures and preventive agents.

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LISTE DES MEMBRES DE L'A.D.C.

On peut se procurer la liste des membres de l'Association dentaire canadienne dès maintenant à l'office central de l'association. La liste contient le nom et l'adresse des membres et des fonctionnaires de l'A.D.C. pour l'année 1961-62. Prix d'achat \$1.00.

LES ACTUALITES DENTAIRES

Le Canada

NECESSITE DES SERVICES D'URGENCE

"Il est bien malheureux que tous les dentistes laissent notre ville en même temps. Ne pourraient-ils pas établir entre eux une entente de façon à ce que l'un d'eux reste en disponibilité?"

Cette remarque a été faite par le journal d'une ville. Elle illustre les mauvais sentiments qui peuvent être entretenus envers une profession sanitaire seulement par une négligence des dentistes.

L'Association dentaire canadienne a à maintes reprises préconisé l'organisation de services d'urgence en dehors des heures de bureau. Plusieurs villes du Canada ont déjà cette organisation. La plupart des citoyens seront rassurés à la seule pensée que des services dentaires sont tout le temps à leur disposition. Même dans les villes où il n'y a qu'un seul dentiste, un avis au journal ou à l'opératrice de téléphone peut renseigner les gens sur l'absence du dentiste. Les patients ont raison de s'irriter de ne pas trouver de dentiste quand ils en ont besoin d'un. Si les gens savent d'avance qu'il n'est pas disponible, ils peuvent prendre d'autres dispositions ou attendre avec un peu plus de patience.

Chronique internationale

FEDERATION DENTAIRE INTERNATIONALE

La F.D.I. se réunit à Helsinki.—Les dentistes de Finlande se sont surpassés pour organiser le congrès de la Fédération dentaire internationale qui a eu lieu à Helsinki, du 9 au 15 juillet. Ce congrès a remporté un succès remarquable. Les représentants officiels de l'Association dentaire canadienne étaient les docteurs Don W. Gullett et C. H. M. Williams.

La Fédération a adopté une déclaration de principes au sujet de l'organisation de succursales de la F.D.I. dans différents pays; elle a sanctionné une déclaration pour classer la nomenclature du personnel auxiliaire et des effectifs dentaires; elle a consa-

cré toute une séance à la question des auxiliaires dentaires.

On a annoncé que le docteur H. Trendley Dean, des Etats-Unis, avait été choisi pour recevoir le Prix Miller, qui sera présenté à Cologne, en 1962. Ce prix est le plus important décerné au niveau international. L'Association dentaire canadienne félicite le docteur Dean qui a bien mérité ce prix par ses travaux de recherches.

Les élections ont donné les résultats suivants: Président, Jean Deliberos, France; Président-sortant de-charge, Obed H. Moen, Etats-Unis; Vice-Présidents, LeRoy M. Ennis, Etats-Unis; Knut Gard, Norvège; Erich Muller, Allemagne de l'Ouest; Stewart Ross, Grande-Bretagne; Secrétaire général, Gerald Leatherman, Grande-Bretagne; Trésorier, J. Stork, Hollande; Conseiller, Don W. Gullett, Canada; Rédacteur, Hubert H. Stones, Grande-Bretagne.

ETATS-UNIS

Deux autres dentifrices fluorés mis sur le marché.—Deux compagnies ont fait part de leur intention de mettre sur le marché américain des dentifrices contenant du fluor. Ces fabricants n'ont pas entrepris de démarches pour obtenir l'approbation de l'Association dentaire américaine pour leurs produits.

Le dentifrice *Ipana*, fabriqué par la Cie Bristol-Myers, contiendra du fluor. Le dentifrice *Cue*, un nouveau produit Colgate-Palmolive, contiendra du fluorure d'étain. On fera des essais de ces pâtes à dents aux Etats-Unis.

Le Conseil des thérapeutiques dentaires de l'Association dentaire américaine a déclaré de nouveau que son approbation se basera sur des expériences effectuées en clinique avec le produit tel qu'offert au public et non en se servant d'un seul ingrédient. Le conseil a souligné son désir de reviser, à l'occasion, les expériences entreprises en clinique avec ces nouveaux dentifrices.

Le *Wall Street Journal* rapporte que les Cies Colgate et Bristol veulent reprendre le terrain perdu à cause de la publicité formidable qu'a faite la Cie Procter et Gamble au sujet de son dentifrice *Crest*, à la suite de l'approbation que l'Association dentaire amé-

ricaine a donnée à ce produit. On n'indique pas l'effet que le dentifrice *Crest* a eu sur la vente des autres dentifrices.

Etude sur l'augmentation possible du rôle des auxiliaires.—Des recherches doivent être entreprises sur la possibilité d'élargir les cadres des services rendus par les hygiénistes et les assistantes "pour augmenter les disponibilités des dentistes qui leur permettent de prodiguer plus de services à la population". Cette déclaration fait partie d'une série de conclusions d'un rapport de la Conférence de critères pour évaluer les fonctions du personnel auxiliaire, tenue à Chicago, du 28 au 30 juin dernier. Ce rapport sommaire a été accepté, par courrier, par les délégués à la conférence et distribué le 31 juillet.

Le rapport de la Conférence n'a pas de statut officiel et n'établit pas la politique officielle des agences qui avaient organisé la Conférence. Le conseil d'enseignement dentaire de l'A.D.A. en tiendra compte en préparant son rapport officiel au Conseil des Délégués, qui se réunira en assemblée annuelle les 16 et 19 octobre.

La Conférence, qui a été rendue possible grâce à une subvention de la Fondation Kellogg, groupait des représentants de diverses catégories de la profession et comprenait des éducateurs, des examinateurs, des praticiens et des dentistes des services fédéraux d'hygiène dentaire publique. Des hygiénistes et des assistantes dentaires assistaient aussi à la réunion à titre d'observatrices.

Les délégués se sont entendus pour dire que "le dentiste doit assumer la responsabilité de certaines opérations, certaines décisions et certains jugements". Ces domaines qui sont considérés comme étant du ressort du dentiste sont: (1) les diagnostics, les plans et les ordonnances de traitements; (2) la taille et les incisions des tissus durs et des tissus mous; (3) les ordonnances de drogues et d'autres médicaments; (4) les procédures de prothèse, d'orthodontie et autres qui requièrent la science et l'habileté d'un dentiste pleinement qualifié; (5) la direction et la surveillance des services d'un personnel auxiliaire sous la juridiction du dentiste.

La Conférence a énoncé une série de principes pour aider aux recherches qui seront faites dans les facultés dentaires et dans les agences de formation du gouvernement fédéral. Parmi des principes, on note les suivants: (1) les recherches ne doivent pas être entreprises en vue de créer des genres d'auxiliaires qui pourraient être considérées comme des "dentistes de seconde classe"; (2) ces recherches doivent être autonomes, c.-à-d. indépendantes des programmes réguliers d'enseignement; (3) les recherches doivent être pratiques, c.-à-d. susceptibles de pro-

duire une classe d'auxiliaires qui pourraient travailler en pratique privée; (4) la responsabilité de créer et d'élaborer des projets incombe aux individus et aux institutions qui prendront part à ces recherches, sous l'égide du conseil d'enseignement dentaire de l'Association dentaire américaine.

Les Facultés dentaires canadiennes

UNIVERSITE DE MONTREAL

Promotions et nominations.—On signale les promotions et nominations suivantes au corps enseignant de la Faculté de chirurgie dentaire:

Orthodontie.—Le docteur Claude Baril, du service d'orthodontie, a été nommé professeur agrégé d'orthodontie. Le docteur Jacques Bisailon a été nommé assistant-professeur dans la même discipline.

Anatomie générale.—Le docteur Arto Demircioglu, après deux ans d'études graduées à l'Université de Toronto, a été nommé assistant - professeur d'anatomie générale.

Biochimie.—Le docteur Jean-Guy Lagué a été nommé chargé d'enseignement senior en biochimie.

Périodontie.—Le docteur Hubert Labelle a été nommé assistant.

Dentisterie opératoire.—Les docteurs Claude Durand, (à plein temps) Gustave Dupras et Roger Grégoire (temps partiel) ont été nommés assistants.

Diagnostic.—Le docteur Claude Béique-Nadeau a été nommé assistant à demi-temps.

Chirurgie.—Le docteur Gérard de Montigny, chef du service de chirurgie buccale, a été engagé à temps complet.

Nouvelle bibliothécaire.—Mlle Margaret Pertwee a été nommée bibliothécaire de la Faculté de chirurgie dentaire.

Déplacements.—Le docteur Jean-Paul Lusier, vice-doyen et directeur des études, a assisté à la troisième réunion des doyens des facultés dentaires canadiennes, au Mont-Gabriel, P.Qué.

Le docteur Gérard de Montigny a assisté à des communications scientifiques présentées par des professeurs de l'Ecole Dentaire de Paris, à Paris, France, pour un groupe de dentistes de la Province de Québec. Il a, de plus, visité l'Ecole dentaire d'Athènes, Grèce.

Le docteur Jean Nadeau, chef du service de prothèse, a assisté, à titre de membre du Conseil des directeurs, à la réunion annuelle de l'American Academy of Maxillo-Facial

Prosthesis: il a aussi assisté à la réunion de l'American Denture Society et au congrès de l'Association dentaire américaine, tenu à Philadelphie, en octobre.

Hygiène publique

FLUORATION

La requête de Windsor sur la fluoration n'a pas assez de signatures.—Le greffier de la ville de Windsor, Ontario, a annoncé qu'une requête pour tenir un plébiscite sur la fluoration n'a pas eu assez de signatures; il a déclaré que cette requête n'avait pas le 10% des électeurs, comme l'exige la loi.

La requête contenait les noms de 138 étrangers, ceux de 437 qui résidaient en dehors de la ville et ceux de 1,474 personnes dont les noms n'apparaissaient pas sur les listes électtorales; il a en outre dit que 354

autres signatures, qui n'ont cependant pas été rejetées, n'étaient pas celles d'électeurs.

La loi d'Ontario récemment passée à la Législature accorde aux municipalités le pouvoir de tenir des plébiscites sur la fluoration, mais elle exige que 10% des électeurs en fasse la demande par une pétition.

Commentaire d'un quotidien canadien.—Les lignes suivantes sont tirées d'un éditorial du *Guardian* de Charlottetown, I.-du-P.-E., qui traite de l'encouragement donné à la fluoration par les dentistes.

"La population, avec le temps, changera d'idée, mais il est tout de même triste de songer à toutes les dépenses inutiles, à toutes les souffrances et à tous les inconvénients qui seront supportés entretemps.

"Nos dentistes n'ont aucun avantage à prôner cette mesure de santé publique; mais ils en ont quand même la responsabilité morale à cause de leur formation et de leur expérience. C'est pourquoi, ils prennent une part active à ces campagnes; nous les en félicitons et, comme journal, nous les appuyons. Espérons qu'ils ne se décourageront pas à cause de l'indifférence, des critiques et des épreuves, mais, qu'au contraire, ils continueront leur lutte jusqu'à la victoire finale."

ANALYSE

Manifestations à Distance d'Infection d'Origine Bucco-Dentaire

Par: M. Lepoivre et J. Raison.

Édité par: Julien Prélat, Editeur, Paris, 1961.

Pages: 149. Illustré.

Le livre traite de sujet variés: les maladies infectieuses qui débutent ou se manifestent dans la cavité buccale, comme la scarlatine, le rhumatisme, la tuberculose etc. Les complications des maladies dentaires dans les régions immédiatement adjacentes comme les thrombo-phlébites et cellulites péri-maxillaires, les stomatites neurotrophiques, les névralgies du trijumeau etc., et les complications à distance. L'origine de celles-ci est surtout dentaire: les foyers périapicaux ou pulpaires, les périodontites marginales, les périoronarites, les dents incluses etc. Les complications des foyers muqueux sont moins fréquentes, celles des foyers cutanés sont rares.

Les auteurs distinguent trois groupes des accidents:

1. Les répercussions infectieuses à distance: Les septicémies aiguës et l'infection focale au sens classique, avec les localisations métastatiques urinaires, cardiovasculaires, osseuses, digestives, pulmonaires et articulaires.

2. Les troubles inflammatoires amicrobiens à distance;

(a) Pathogénie allergique: des antigènes, surtout les toxines et protéines bactériennes des foyers dentaires provoquent la formation des anticorps qui peut résulter dans une hypersensibilisation. Quoique les auteurs sont assez sceptiques envers l'allergie, ils mentionnent les rhumatismes articulaires, néphrites, affections cardio-vasculaires de cette origine.

(b) Pathogénie neurovégétative: des irritations variées des fibres du système neurovégétatif peuvent provoquer des réactions secondaires surtout dans les viscères qui dépendent du nerf irrité mais aussi à distance (Reilly). Une excitation neurovégéta-

tive agissant sur l'hypophyse peut provoquer des troubles du mécanisme d'adaptation générale. Les auteurs préconisent la pathogénie neurovégétative et leurs exemples des maladies causées par des canines incluses ou par l'éruption d'une molaire sont difficiles à expliquer autrement.

3. Les troubles réflexes d'origine dentaire (troubles oculaires, auriculaires, cutanés, muqueux, troubles des glandes salivaires, troubles nerveux) sont causés par des irritations variées des fibres trigéminales. Ils se présentent sous formes pathologiques dif-

férentes; inflammations, névralgies, larmoie-ment, ptialisme, chute de cheveux, etc., et ils se localisent presque toujours dans le domaine du trijumeau.

Le livre contient des récapitulations des notions élémentaires de l'anatomie, physiologie et pathologie, des chapitres sur le diagnostic et traitement et des descriptions des cas. Il devrait être lu par tous les dentistes et médecins, parce que le diagnostic et le traitement des complications à distance peuvent poser des problèmes bien compliqués.

Z. Mézl

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The Radiograph in Periodontology

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It is now widely accepted that the bite-wing radiograph is a valuable aid in the diagnosis of interproximal caries, and that no dental examination is complete without these radiographs being taken. With the aid of faster films and better x-ray machines, the danger to the patient of repeated bite-wing radiographs over a period of years, is practically non-existent, and it would appear quite legitimate to pursue this type of examination for the value it gives to the patient in the early diagnosis of interproximal caries.

In periodontology however, there is a tendency to require full-mouth, intraoral periapical films, for the diagnosis and prognosis of periodontal diseases. Goldman et al (1959),¹ state that "a clear, well processed full-mouth series of radiographs is a prime essential in any diagnostic attempt." Glickman (1958),² who takes a more moderate view also states that it is "an indispensable clinical aid", but adds that it "is an adjunct to careful clinical observation—not a substitute for it". Wade (1960),³ on the other hand, does not include radiographic examination under his clinical examinations but places it separately as an addi-

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tional investigation which "on certain occasions may be used as a confirmation of a diagnosis, or to assist in assessing the extent and severity of the lesion".

This paper will examine the value of the radiograph in assessing the periodontal problem, if a careful clinical examination is undertaken.

THE PERIODONTAL PROBLEM

In order to arrive at a diagnosis, we must first take a history which will disclose the patient's symptoms (Trott, 1961).⁴ Then we must carry out a careful clinical examination to elicit the signs (Trott and Wade, 1954),⁵ (Blake and Trott, 1961).⁶ From the assembled evidence thus obtained, we can deduce a diagnosis which will in turn give us a guide to the prognosis. At this stage no radiographs have been taken, and the author would agree with Wade, that the radiograph is *not* part of the clinical examination, but an extra examination which is sometimes required.

The problems we wish to solve are:

1. The extent and distribution of gingival disease.
2. The extent and distribution of the pocketing.
3. The mobility of the teeth.
4. The aetiological factors involved.
5. The health of the pulp and the periapical region.

The usefulness of the radiograph in relation to each of the foregoing will be discussed.

The Extent and Distribution of Gingival Disease

Inflammation of the gingivae is the most common and important disease affecting the periodontal structures. It is a soft tissue lesion and however enlarged or ulcerated the gingivae may be, the lesion remains in the soft tissue of the gingivae and does not until a later stage involve the underlying bone.

The moot question is, when does a gingivitis become a periodontitis? Clinically, this depends solely upon whether there is the formation of a true pocket or not.

A true pocket is formed when there is an apical shift of the epithelial attachment, and there is an increase in the distance between the gingival crest and the base of the gingival sulcus. Obviously this will occur at a microscopic level long before it is detected clinically. The normal gingival crevice is assumed to be 2 to 3 mm. in depth. If the depth is greater than this the clinician must answer three questions:

1. Is the increased depth due to a volumetric change in the gingiva, i.e. the result of inflammation? or
2. Is the increased depth due to destruction of the attachment apparatus? or
3. Is the increased depth due to a combination of (1) and (2)?

If the answer to the first question is in the affirmative, then there is a gingivitis present and not a periodontitis. If the answer to the second and third question is in the affirmative, then a periodontitis is present.

In deciding this, how does the radiograph help? As Pritchard (1961)⁷ points out, a pocket is created by the destruction of the periodontal membrane apparatus and is radiolucent and therefore not recorded on the radiograph. Whether there is a gingivitis or a periodontitis present, a diagnosis can only be made on microscopic and clinical grounds. It is impossible to take a biopsy; therefore the clinical evidence is the only one that can be used.

Inflammation of the gingivae may in certain circumstances lead to recession or atrophy of the gingivae. In such a situation bone will be destroyed, but it is still possible, and this is often the case, that there is no pocketing. Therefore the condition is still a gingivitis and not a periodontitis. The radiograph can lead to false conclusions in these situations.

If there is a generalized recession of

the gingivae, the radiograph will show a reduction in the amount of bone supporting the teeth. One may be tempted to jump to the conclusion that this is due to a periodontitis because one cannot see the soft tissues in the radiograph. Clinically, however, there is no pocketing but a generalized gingival recession and atrophy of the alveolar bone. This is quite different to a chronic periodontitis. This kind of error could not arise if there were no radiographs.

Since disease of the gingivae is primarily a soft tissue problem, the radiograph cannot supply any additional information that cannot be obtained from a careful history and a good clinical examination.

Extent and Distribution of the Pocketing

The formation of a true pocket is pathognomonic of a periodontitis. What we wish to ascertain is:

(a) The type of pockets and their distribution.

(b) The extent of the pocket related to the tooth and the alveolar bone.

(c) The relationship of the soft tissue to the bone.

It has already been pointed out that a pocket is a soft tissue lesion and this can be confirmed quite simply by the measurement of the abnormally deepened gingival crevice by a graduated probe.

Type of Pockets and their Distribution.—There are two types of true pockets, supra-bony and infra-bony. Can these be differentiated clinically?

Supra-bony pockets are the most common type and when these are found, there will be an even distribution of pocket depth in each interdental space and around each tooth. Thus if one passes a measuring probe along the mesial aspect of one tooth and the distal aspect of its neighbour in the same interdental space, then the measurement will be approximately the same. If there is a difference in pocket depth in the same

interdental area, then the deeper pocket will be infra-bony.

There are two situations where one may be led astray. In interdental areas around molar teeth there is likely to be a broad shallow infra-bony pocket which cannot be detected clinically. This is due to the fact that the maximum irritation is in the middle of the interdental septum, where the alveolar bone is more cancellous and resorption will be greater here than on the buccal or lingual aspects, where the alveolar bone is cortical. These infra-bony areas are often shallow and saucer-shaped, and not until one does a gingivectomy is the exact topography revealed.

The other situation occurs in an edentulous saddle area between two teeth. It often happens that a pocket is formed mesially and/or distally in these areas and it is impossible from clinical examination alone to say definitely whether or not the pockets are infra-bony. In this latter situation a graduated Hirschfield silver point can be inserted to the base of the pocket, and if a radiograph is then taken, it will show the extent of the infra-bony pocket.

In making a diagnosis and considering a prognosis, we are also concerned with the distribution of pocketing around all the teeth. The number, depth and type of pocket either localized or generalized will influence the diagnosis and the prognosis. But it has already been pointed out that this can be detected by clinical examination and that the radiograph does not give any additional information. Therefore the use of full mouth radiographs to confirm a diagnosis which can be made after a careful clinical examination is to be deprecated.

Extent of the Pocket Related to the Teeth and Alveolar Bone.—The formation of a pocket destroys the attachment of the tooth to the alveolar bone. The amount of alveolar bone that remains to support the tooth is obviously an important factor, and it might appear that the radio-

graph is the only means of answering the problem of how much bone support remains around the teeth. This is not so.

We should be able to remember from dental anatomy approximately the average length of the roots of the teeth and the number and topography of the roots on each tooth. For it is not the amount of bone remaining that is important, but the root area which is capable of supplying attachment for the periodontal membrane fibres from the cementum to the alveolar bone. This can be clearly realized when one considers the effect of a 6 mm. pocket around certain teeth. In the anterior mandibular region the teeth will begin to show some mobility. There may be a little mobility around the anterior maxillary teeth, but it will not be as marked as that found in the mandibular incisors. There will be no perceptible mobility at all around the molar teeth where there are large root areas present. The same amount of bone has been lost in each case, but the amount of root area for periodontal membrane attachment varies in each instance. Root area and not the height of the alveolar bone is what must be kept in mind. It must be remembered, however, that a pocket is the distance from the crest of the gingival margin to the base of the attachment of the gingivae to the tooth. If recession has occurred, then one must take into account the amount of root which is exposed above the gingival margin, as well as the amount of root below the gingival margin which has no attachment, when estimating how much root is still available for attachment of the tooth.

Another important point in this assessment is the topography of a root. If the root has a conical shape, then loss of the coronal half of the alveolar bone will cause approximately 75 per cent reduction in the effective root area.

Similar criteria apply to the infra-bony pocket. It has already been pointed out that the existence of the infra-bony

pocket can be obtained from a careful clinical examination. The extent to which this involves the side of a root can again be more carefully assessed by clinical than radiographic examination, because if the pocket is a tortuous one and extends onto another root surface, this will not be evident on the radiograph. Since the infra-bony pocket involves only one or two surfaces of a tooth, there is still a large area of root attached so that one need not expect any undue mobility.

The most important factor in estimating the prognosis is the stability of the teeth and this cannot be assessed from the radiograph. The other point, of course, is the ability to eradicate the pockets, and this depends mainly on their depth and distribution. Again this can mainly be assessed from the clinical examination.

Relationship of the Surrounding Soft Tissues to the Pockets.—Often when deciding the treatment to be given in particular cases, it is necessary to take into account the relationship of the base of the pocket to the muco-gingival line and the insertions of the fraena. These are soft tissue landmarks which are not related to known specific bony landmarks. Therefore the radiograph will be of no help in deciding the treatment.

Aetiological Factors Involved

There are two aspects to the treatment of any disease process. First, the removal or the correction of the aetiological factors and secondly, the treatment of the diseased organ to restore it to as normal health and function as possible. In a consideration of the inflammatory disturbances which affect the periodontal tissues, the aetiological factors are primarily local in origin. Blake and Trott (1961) consider chronic gingivitis and periodontitis as one disease, one being an anatomical extension of the other. The aetiological factors concerned are the same in both conditions. Therefore since the primary attack is on the soft

tissues of the gingivae, the factors will be found in close association with the soft tissues. The radiograph is of little help in identifying the many factors which can combine to affect the periodontal structures.

Health of the Pulp and Periapical Tissues

In a consideration of the diagnosis and subsequent treatment planning, it is essential to know the state of the pulp and the periapical tissues. The state of the pulp can only be determined by histological examination. However, from clinical evidence it is possible to build up a picture which will give us some idea of the pulp's vitality. A history of pain if present, the type of pain, the length of time the pain has been present, factors which either accentuate or lessen the pain, are all points which have to be taken into account. The colour of the tooth is a most important clinical sign. Then, there are two means of testing the vitality of the pulp, thermal and electrical. Neither of these methods are infallible, but when the history, clinical signs and the vitality testing are all added together, a very good idea can be obtained of the condition of the pulp. It is one of the most difficult things to teach a dental student, that a radiograph will tell you nothing about a pulpitis. Bite-wing radiographs, however, will give a good indication of the extent of dental caries or the recurrence of caries which may be causing a pulpitis and, in this regard, they are of the utmost help.

With the periapical tissues the same principles apply. Percussion of a tooth will often reveal teeth where one did not suspect a periapical lesion. Further clinical examination will reveal that the tooth is not vital and one might suspect a periapical lesion. The extent of this lesion cannot, however, be ascertained from a purely clinical examination, and the periapical radiograph is the only means of answering this question. But in this case one does not need to have a full-mouth

survey; only the tooth or teeth that show clinical evidence of pulp and periapical disease need have a periapical radiograph taken.

SUMMARY

It can be seen that the radiograph is of a limited value in the diagnosis and prognosis of chronic gingivitis-periodontitis. This is not to say that it should never be used. On the contrary, the radiograph is a most useful diagnostic aid, but it should be used to supplement the clinical examination, just as a biopsy or a blood examination are supplementary, and not as a routine measure. One must have a good reason for taking periapical radiographs, and not use them as a crutch to support inadequate case histories and clinical examinations. A preliminary clinical diagnosis should be made before radiographs are taken. Then they should only be used to confirm or alter the clinical evaluation. If a diagnosis and prognosis can be made from the clinical examination, and in the great majority of cases this is so, then a full-mouth series of radiographs is unnecessary.

RÉSUMÉ

Une radiographie, parce que les pathologies de la gencive constituent des problèmes des tissus mous, ne peut guère ajouter comme renseignement à une histoire de cas complète et à un bon examen clinique.

Un clavier du périodonte est aussi une lésion des tissus mous. La localisation et l'étendue de ces claviers s'établit mieux à l'aide d'une sonde graduée. Ce n'est que rarement qu'on rencontre des destructions osseuses étendues, mais peu profondes, dans les espaces interdentaires des molaires; de même, les claviers mésiaux et distaux entre deux dents sont rares dans une région partiellement édentée. On ne peut pas déterminer par une radiographie les rapports qui exis-

tent entre le fond du clapier et le rebord muco-gingival.

L'état de la pulpe ne peut s'évaluer que par un examen clinique et histologique. Les mêmes principes s'appliquent pour les tissus périapicaux, mais l'étendue de cette pathologie ne peut pas se juger par seulement un examen clinique.

Il faut établir un diagnostic clinique avant de passer à la radiographie. La radiographie ne sert qu'à confirmer ou modifier le diagnostic clinique.

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The Practical Application of Diagnosis in the Dental Office

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It may come as a surprise to many that diagnosis is as clinical a phase in dental practice as oral surgery, periodontics and prosthodontics. It is no longer a subject for purely academic dissertation, nor is it merely a medium for testing a student's ability to pass written examinations. When a lecture on diagnosis in dental practice is presented to a group of practitioners, the lecturer and the audience should assume that they are attending a diagnostic conference with a patient seated in a dental chair in front of them, and that the patient has come specifically for the diagnosis and treatment of an oral

problem. If it is humanly possible, there should be only one diagnosis and it must consider the patient who has the problem as well as the problem which the patient has. There may be several treatment plans, or it may be deemed wiser not to administer any treatment, but the selected plan, whether it be mechanical, cosmetic or therapeutic, must be determined by the prognosis — the response of the patient to the treatment. And the entire procedure should have a realistic bearing on the building of a successful practice.

If such an approach to diagnosis in dental practice appears to be astonishingly advanced, it is born of the active transition through which dentistry is now passing. As clinicians we are aware that success in dental practice will always depend to a great extent on the practitioner's manual skill in restoring mouths to better function and more pleasing aesthetics,

Synopsis of a series of illustrated lectures delivered at the Annual Meeting of the Canadian Dental Association, Saskatoon, June 5-7, 1961.

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but within recent years dentistry has changed rapidly from a purely mechanical and cosmetic art to a biological or bio-mechanical science. It is now essential for the dentist to know the tissues into which and upon which he places his restorations, prostheses and appliances, and he must have a profound understanding of the total patient of whom those tissues are a part.

The importance of the totality of the patient is pervading every effort of the dental practitioner. The patient is no longer reduced to a hole in a tooth with the main problem being the selection of a suitable filling material. He is not a vacant space between teeth to be bridged with a fixed or removable appliance, and he is not an empty mouth that needs "plates" with which to eat and smile. When he enters the dental office, he brings with him the components of his totality — the influence of his hereditary make-up and environment, of his vocation and avocations, of his family and social life, of his financial and social status, of his moods and thoughts, loves and hates, even his religion and politics. All of these factors must be taken into account in the diagnosis, treatment planning and prognosis.

Should any one of these components be out of balance (it may be his job, an ailing child, a deficient bank balance, or a grudge against someone) the disturbance will be reflected somewhere in his physical or psychological make-up. Just where the manifestation will occur has always been a matter of conjecture, but as dentists we know that the mouth is one of the most sensitive parts of the body, and when we examine it clinically and radiographically, we may be able to discover the oral cause or effect of a systemic aberration.

Perhaps the greatest stimulation to the biological approach to oral problems is the recognition by all who are in health professions that the mouth is an integral part of the body, and that any oral disease or discomfort, whether it occurs in

the teeth, the soft tissues, or the jaw-bones, may be related to an abnormality or pathosis in any other part of the body or the mind.

Orthodontists admit that routine mechanical treatment of malocclusion without a consideration of familial patterns and health history is responsible for many of their failures. Hypothyroidism in adolescent females is as much a factor in dental caries as the excessive consumption of refined and fermentable carbohydrates. Stress situations are now believed to play a determining role in bruxism, erythema multiforme, lichen planus and scleroderma. Periodontal disease in a diabetic patient cannot respond well to the dentist's treatment without concomitant medical attention. Denture sore spots without apparent lesions in the mouths of postmenopausal patients often respond favourably to hormonal administration.

The modern physician is ready to admit his inadequate knowledge of oral pathology and he appreciates the co-operation of the dentist who is familiar with the correlation of oral manifestations with systemic disorders. Patients usually visit their dentist more often than their physician. The dentist thus has the opportunity of observing early symptoms and signs of a systemic abnormality if there are any oral causes or effects, and the discovery is frequently made before the patient is aware that a systemic disease is involved. For example, a mild but persistent gingival bleeding may presage an iron deficiency anaemia. Investigation of a sore at the angle of the mouth may uncover a vitamin B complex deficiency. Brownish pigmentations of the oral mucosa may be a manifestation of Addison's disease or of an intestinal polyposis.

During a series of treatments a dentist generally sees his patients at short and regular intervals. Should he notice a lesion the form, size, colour and texture of which are common to a number of oral diseases, he may reserve his opinion of the diagnosis until a subsequent visit when a change in the lesion's character-

istics will help in a differential diagnosis, often without recourse to biopsy or culture.

A white lesion that gradually disappears with a few weeks after a patient discontinues smoking, can hardly have been an early malignancy. If the lesion becomes keratotic and eroded, a biopsy is essential to determine the presence of a squamous cell carcinoma. A swollen face which a patient associates with an abscessed tooth, may be readily diagnosed as mumps a few days later when the other characteristic symptoms and signs of parotitis appear.

As an additional aid to diagnosis in dental practice, new values are being derived from the dental radiograph. It is still being used to discover dental cavities that cannot be detected clinically, and for a long time it has enlightened us in periodontal problems, but we are now learning much about the past, present and future of the patient's development and health by studying various abnormal images in the dental radiograph. A developing permanent anterior tooth seen in the radiograph before it erupts may have an unusually narrow and notched incisal edge which may lead us to the discovery that the patient is a congenital syphilitic. When the apical areas of the dental roots appear to remain underdeveloped, the child may have rickets or diabetes. If teeth are abnormally retarded in their eruption, or if the radiograph indicates that they tend to be permanently embedded, one should suspect a hypofunction of the pituitary gland, and the patient's growth may be dwarfed. On the other hand, an abnormally accelerated rate of eruption may reveal an adrogenital syndrome or a hyperthyroidism.

Above all, we have become conscious of the character of bone as it is seen in the dental radiograph. Trabeculations may be dense, pale or flocculent, and marrow spaces may be irregular or unusually small. A generalized radiolucency (osteoporosis) is seen in nutritional deficiencies, the postclimacteric syndrome, diabetes and disuse atrophy. The white line around the dental roots which represents the alveolar lamina dura is often missing in diabetes, kidney disease and when protein metabolism is faulty. "Cottonwool" bone is found in Paget's disease, "ground glass" bone in hyperparathyroidism, and "marble" bone in osteopetrosis.

Dentists usually take more routine radiographs than physicians, and if the patient has a disease which affects bone, there is a possibility that it will also be evident in the dental radiograph. In many cases the bone disease may occur first in the jawbones and without symptoms, and the dentist may discover it in the sub-clinical stage during a routine dental examination.

The dentist's knowledge of clinical and radiographic oral-systemic interpretations has helped to give him status as a mouth physician and to establish dentistry as a health service. It is becoming increasingly essential for the dentist to institute scientific and systematic diagnostic procedure before he attempts to plan a treatment and venture a prognosis. When treatment is attempted without diagnosis, there is always a risk of failure, and failure usually implies a lack of knowledge. The search for knowledge goes hand in hand with diagnosis.

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RECRUITMENT TO THE DENTAL PROFESSION

Each individual dentist, by virtue of example and service in the community, can create a feeling of respect which encourages others to take up the profession . . . Each member of the profession has a contribution to make (in recruitment). — G. H. Leatherman, secretary-general of the Fédération Dentaire Internationale.

An Appraisal of Antibiotic Therapy in Dentistry: 2

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Antibiotics are a group of substances elaborated by bacteria, fungi and actinomycetes which, in minute quantities, inhibit the growth and even destroy organisms. In almost twenty years of clinical usage, they have produced miraculous results and thus revolutionized the fields of therapeutics and preventive medicine.

The object of this paper is to evaluate the role of these drugs in various dental conditions, to outline factors pertaining to their proper application and to point out the potential dangers associated with their utilization.

HISTORICAL REVIEW

In 1928, Alexander Fleming of St. Mary's Hospital Medical School, University of London, observed inhibition of staphylococcal growth by a fungal contaminant on a culture plate. His attempts to isolate the inhibitory factor which he called "Penicillin" proved unsuccessful, and it was not until 1940 that Florey and co-workers accomplished this scientific feat and thus ushered in a new era in therapeutics.

In the early months of its clinical use, supplies of penicillin were mostly channelled to the armed forces. Miraculous results were noted, and healing was generally rapid and uneventful.

The work done by Garrod in 1944 showed that penicillin was effective against the great majority of oral flora, only *Candida albicans* being markedly resistant.¹

With the increased availability of penicillin, the dental applications of the drug were widely explored. An infinite number

of preparations in the form of tooth-pastes, pastilles, cones, irrigating solutions, dusting powders and even chewing gums were marketed to treat various oral conditions ranging from dental caries to osteomyelitis. In spite of the subminimal dosages used, the results obtained were remarkable.

World War II set the stage for the discovery and isolation of a number of antibiotics. These include streptomycin (Waksman et al, 1942), bacitracin (Meleney and Johnson, 1945), chloramphenicol (Burkholder, 1947), chlortetracycline (Duggar, 1948), and a host of others such as oxytetracycline, neomycin, erythromycin and polymyxin which were discovered in the last decade.

In 1946, Hallam cited a relapse of a Vincent's infection following previous clearing with local penicillin therapy which could not be cured again with this drug.² In time, an increasing number of resistant cases were reported. Hypersensitive and anaphylactic reactions were subsequently observed in some patients. Other antibiotics also revealed undesirable side effects, besides being more specific and usually less effective in their action than penicillin. However, years of clinical experience with these drugs have provided experience and contra-indications for their usage, resulting in a more rational approach to antibiotic therapy.

ACTION AND PROPERTIES OF ANTIBIOTICS

The action of antibiotics is exerted most effectively when microorganisms are metabolically active.

Both penicillin and streptomycin disrupt the normal chain of events in nucleotide utilization by inhibiting the activity of certain dehydrogenases and oxidases,

Canadian Dental Association War Memorial Award second prize essay, 1961.

TABLE 1 Types and general properties of antibiotics commonly used in dentistry.

Antibiotic	Spectrum	Action	Dosage	Side effects
Penicillin	Gram-positive and some gram-negative organisms, spirochaetes and some actinomycetes	Bactericidal	1-3 x 10 ⁶ I.U./day penicillin V in divided doses (oral)	Mild to severe allergic reactions, gastro-intestinal disturbances
Streptomycin	Gram-negative and some acid fast gram-positive organisms	Bactericidal	1-2 Gm./day in divided doses (intramuscular)	Temporary or permanent vestibulo-auditory dysfunction, blood dyscrasias and allergic reactions
Erythromycin	Gram-positive and some gram-negative organisms, spirochaetes and large viruses	Bacteriostatic	1.5-4 Gm./day in divided doses (oral)	Abdominal cramps, diarrhoea, nausea and vomiting
Spiramycine	Gram-positive organisms	Bactericidal	1.5-2 Gm./day in divided doses (oral)	Gastro-intestinal disorders
Polymyxin B	Gram-negative organisms	Bactericidal	0.1-0.25 per cent aqueous solution (topical)	Systemic neurotoxin and nephrotoxin
Neomycin	Gram-positive and gram-negative organisms	Bactericidal	5 mg./ml. aqueous solution 5mg/Gm. soluble base (topical)	Systemic nephrotoxin
Bacitracin	Gram-positive and some gram-negative organisms, and spirochaetes	Bactericidal	500-1,000 I.U./ml. solution 500-1,000 I.U./Gm. soluble base (topical)	Systemic nephrotoxin
Tetracyclines	Gram-positive and gram-negative organisms, large viruses and rickettsiae	Bacteriostatic	1-2 Gm./day in divided doses (oral)	Stomatitis, diarrhoea, nausea, poor vitamin absorption and allergic reactions
Chloramphenicol	Gram-positive and gram-negative organisms, rickettsiae and some viruses	Bacteriostatic	1.5-4 Gm./day in divided doses (oral)	Stomatitis, gastro-intestinal disturbances, poor vitamin absorption, blood dyscrasias and allergic reactions
Nystatin	Some fungi, especially <i>Candida albicans</i>	Fungicidal	1-2 x 10 ⁶ I.U./day in divided doses (oral) 100,000 I.U./Gm. soluble base (topical)	Mild gastro-intestinal disturbances

respectively. The broad spectrum antibiotics (tetracycline, chlortetracycline, oxytetracycline and chloramphenicol) interfere with nucleotide and peptide syntheses. The topical group of antibiotics

(polymyxin B, neomycin and bacitracin) exert both physical and biochemical effects by acting at the cell surface and either altering absorption or destroying its structural activity.³

The specific mechanism of action of a particular antibiotic confers upon it either cidal or static activity against an organism.

Viruses are generally not affected by antibiotics⁴ since they consist essentially of nucleoproteins and have no enzymes associated with metabolic activity.⁵

THERAPY

Modern Principles of Antibiotic Therapy

In the use of antibiotics, the following factors come under consideration:

1. The condition must be of bacterial or fungal origin.

2. The antibiotic must not be allergenic to the host, but the organisms must be sensitive to it. Ideally, antibiotic therapy should be preceded by bacterial susceptibility and host sensitivity tests. In the majority of cases, however, this is not possible.

3. The antibiotic must be present in sufficient concentration for an adequate period of time at the site of the infection. Antibiotics are effective in low concentrations and are relatively non-toxic to the host. In general, it is preferable to administer large doses over a short period of time rather than to give small doses over an extended period.

4. The type of antibiotic chosen and the disease determine the mode of administration. Where practical, oral administration is preferable to parenteral use as regards convenience to the dentist and comfort of the patient. Moreover, acute hypersensitive reactions are rarely encountered following oral use. Streptomycin is always administered parenterally because it is poorly absorbed from the intestinal tract. Superficial infections of the oral tissues which respond to local therapy are treated with a group of antibiotics especially set aside for this purpose.

5. Local and systemic factors predisposing to the condition must be eliminated

in conjunction with antibiotic therapy; otherwise a relapse is inevitable.

6. An adequate blood supply to the infected area is necessary for a favourable response to antibiotic therapy.

7. Antitoxin therapy may be necessary in conditions where bacterial toxins play an important role.

8. Antibiotics should not be administered when a condition can be remedied by other means. The risk of sensitizing the patient and thus depriving him of a life-saving drug at some future time must be considered.

Combined Antibiotic Therapy

Combinations of Two or More Antibiotics.

—In recent years, much experimental and clinical investigation has been directed to the concurrent use of two or more antibiotics in the treatment of various conditions. The interest in this form of therapy was the result of the following observations:

(a) Some species of pathogenic organisms have been found to be generally resistant to all antibiotics given singly.

(b) One antibiotic is usually inadequate in the treatment of mixed infections.

(c) In a progressive infection which cannot be immediately diagnosed or left to develop further, initial combined antibiotic therapy is advisable while waiting for laboratory reports.⁶

(d) Some combinations of antibiotics have a synergistic effect.

(e) Certain antibiotics used concurrently inhibit the development of resistant strains.

In combined antibiotic therapy, antibiotics may be conveniently divided into two groups: (1) penicillin, streptomycin, neomycin, bacitracin, and (2) chlortetracycline, oxytetracycline, tetracycline, and chloramphenicol.

Combinations of group (1) antibiotics are frequently synergistic, occasionally indifferent but never antagonistic.

Combinations of group (2) antibiotics

are neither synergistic nor antagonistic, but may be additive in action.

Combinations of group (1) and (2) antibiotics may be synergistic, antagonistic or indifferent in their action, depending on the organism.^{7,8} If the organism is highly susceptible to the group (1) drug, antagonism may result. If the microorganism is highly resistant to the group (1) drug, synergism may occur. With organisms of intermediate resistance to the group (1) drug, either synergism or antagonism is possible.⁹

Combinations of Antibiotics and Other Substances.—Tetracycline has been fortified with glucosamine to increase the absorption rate after oral administration. Dore demonstrated that in this form, the drug decreased irritation of the gastric mucosa and disturbance of the normal flora.¹⁰ It was later shown that the calcium phosphate excipient in earlier dosage forms was responsible for the slow rate of absorption of the antibiotic.^{11,12} The enhancement of absorption has therefore been attributed to the omission of calcium phosphate rather than to the inclusion of other agents.

Since some antibiotics suppress the absorption of vitamins from the digestive tract, preparations have been marketed containing combinations of antibiotics and multiple vitamins. The Council on Dental Therapeutics of the American Dental Association has investigated these drugs and concluded that they were of no value in the treatment of infections of dental origin.¹³

A group of anti-inflammatory substances has been gaining prominence in dental therapeutics. These are tissue enzymes such as trypsin and chymotrypsin which act to liquefy local products of inflammatory reactions and increase the blood supply to an area. They also favour the spread of bacteria, but this effect was thought to be overcome by the enhanced action of antibiotics under these conditions.¹⁴ When bacteria are sensitive to the antibiotic used, early resolution of the

infection takes place. Should non-susceptible organisms be present, however, the ultimate result could be disastrous.

Prophylactic Use of Antibiotics

The routine prophylactic use of antibiotics is neither necessary nor desirable. Sound surgical procedures under aseptic conditions will usually result in an uneventful postoperative recovery and obviate the need for antibiotics. These drugs should never be employed to prevent an infection that would not have developed in the first place.

The use of antibiotic cones in "dead spaces" left after surgical procedures to reduce postoperative discomfort and possible infection has to all intents and purposes been discontinued. Besides the possibility of sensitizing the patient, the cones often disintegrated into fragments which elicited foreign body reactions and retarded healing.¹⁵

Baer et al advocate the use of gingivectomy packs containing bacitracin. Their research showed that while the healing period remained unchanged, patients were more comfortable because there was no unpleasant taste or odour and less tissue necrosis under the pack.¹⁶ However, when gingivectomy is done under reasonably sterile conditions with minimal soft tissue trauma, complete removal of unhealthy tags of granulation tissue and the proper placement of a surgical pack, tissue debris and necrosis under the pack is insignificant and of little consequence.

The use of antibiotics during the surgical creation or closure of an oro-antral fistula is now routine procedure to safeguard against infection of the maxillary antrum and ensure that the closure flap will not degenerate.¹⁷

Antibiotics have been used profitably to prevent infections following fractures of the facial skeleton, especially if these are comminuted. In the case of fractured maxillae where the fracture line involves

the base of the skull, there is a marked susceptibility to infection. Such instances require intrathecal antibiotic therapy in order to surmount the blood-brain barrier,¹⁸ but the dosage must be well controlled in order to prevent toxic reactions.¹⁹ Bone grafting procedures have been more successful when conducted under an antibiotic cover.

When surgery is contemplated in debilitated individuals with lowered body resistance, antibiotics aid immeasurably in minimizing or eliminating postoperative complications. Patients with such conditions as Addison's disease, agranulocytosis, aplastic anaemia, diabetes mellitus, rheumatoid arthritis, renal disease or those on steroid therapy must be carefully evaluated and all precautions taken prior to any surgical procedure.¹⁵

Extractions are the most prominent predisposing dental cause of subacute bacterial endocarditis.²⁰ In 87 per cent of cases, the offending organism is of the *Streptococcus viridans* group. Transient bacteraemias are common following dental procedures. Chemoprophylaxis for patients with rheumatic or congenital heart disease is therefore widely employed, even for minor procedures such as scaling. Penicillin is the most frequently used antibiotic in these cases, although four per cent of the *Streptococcus viridans* group are not susceptible to it. The broad spectrum antibiotics have also been employed to prevent subacute bacterial endocarditis, but they are not as efficient as penicillin because they are merely bacteriostatic, and relapse is possible after they are discontinued.²¹

Where antibiotic prophylaxis is indicated, an adequate blood level should be maintained over a period extending from at least one day prior to surgery to two or more days following the operation. The postoperative administration period is governed by the severity of the patient's condition and the extent of the procedure involved.

Therapeutic Uses of Antibiotics

When considering the use of an antibiotic, a knowledge of the susceptibility of the infective organisms is necessary. This can be readily determined from disk sensitivity tests as outlined by Weisman.²² Nevertheless, treatment of acute conditions need not be delayed pending laboratory reports. A tentative diagnosis can be made in most oral conditions and treatment started, even though this may have to be changed at a later time. It should be noted that because of the mixed aetiology of oral infections, identification of the causative or contributing organisms is of secondary importance.

Antibiotics may be used therapeutically in the following dental situations:

Acute Pericoronitis.—This condition often runs a stormy course and is associated with severe pain, elevation of temperature, regional lymphadenopathy and possible trismus which affect the general health of the patient. The infection may progress to a parapharyngeal abscess, submaxillary lymphadenitis or even Ludwig's angina, and therefore prompt and adequate antibiotic therapy is necessary. Penicillin or a tetracycline is useful in alleviating the manifestations of the acute phase and permitting surgical procedures to be carried out.²³

Osteomyelitis.—In severe cases where sequestra and necrotic matter are present, there is little likelihood that sterilization of the lesion can be accomplished with antibiotics alone. Concurrent surgical intervention becomes necessary under these circumstances.²⁴ The drug of choice is penicillin, but erythromycin may be substituted when penicillin-resistant staphylococci are present.

Dentoalveolar Abscess.—In the chronic state, this condition is resolved either through endodontic treatment (with or without root resection) or extraction with curettage. In the acute state, antibiotics

are used only when drainage cannot be established through the tooth or where the overlying tissue is not ready for incision. It must be stressed, however, that antibiotic therapy is not an alternative to endodontic or surgical procedures.

The local injection of an antibiotic solution at or near the site of an abscess to hasten resolution²⁵ is undesirable because of the risk of spreading the infection.

Root Canal Therapy.—The vast majority of endodontic cases can be treated by simple biomechanical methods. Therefore, the use of antibiotics can only be justified in selected cases where this procedure has failed to achieve sterile conditions in the root canal.

Early antibiotic preparations were combinations of systemic antibiotics with no regard to drug antagonism. Since synergistic, antagonistic or additive properties of antibiotic combinations also depend on the organisms present, bacteriological tests are an indispensable adjunct to therapy, in terms both of the welfare of the patient and the success of the procedure.

As with the biomechanical method, proper debridement and mechanical cleansing of the root canal is of utmost importance. Smears are taken for culturing and disk sensitivity tests conducted to determine the susceptibility of the organisms to various combinations of antibiotics.

Culture tests for sterility of a canal are difficult because antibiotics inhibit the growth of any bacteria in the culture, resulting in false negative results. The solution to this problem is the use of antibiotic inhibitors in the culture medium, but up to the present time, only penicillin and streptomycin inhibitors have been satisfactory.

Inclusion of systematically used antibiotics in root canal therapy is a dangerous practice because of the hazards outlined later in this paper. The antibiotics used should, as far as possible, be those reserved for topical application.

The most commonly used antibiotic

combination in endodontic procedures is Grossman's PBSC paste. This contains two systemic antibiotics and is therefore considered to be potentially dangerous. Two other antibiotic preparations discussed in the literature contain only the topical group (polymyxin B, neomycin and bacitracin) and a fungicide,^{27,28} and these are considered far safer. Moreover, they are as effective as PBSC.²⁹

Vincent's Infection.—Although hydrogen peroxide mouth washes and scaling will alleviate this condition, the use of systemic penicillin in the acute stage has a definite advantage because of the rapid elimination of systemic manifestations such as malaise, fever, sore throat and cervical lymphadenopathy. Removal of local irritants can then be instituted with little discomfort to the patient. It must be emphasized that elimination of local and systemic predisposing factors is of utmost importance to prevent recurrence of the infection.

Cellulitis.—In the absence of an elevated temperature, cellulitis can be relieved by hot magnesium sulphate compresses to reduce the swelling, followed by surgical intervention when deemed necessary. If the swelling is likely to compromise respiratory function, progress to periorbital inflammation or lead to other complications, penicillin or a broad spectrum antibiotic is indicated.

When fever accompanies a diffuse cellulitis, antibiotic therapy is indicated not only to bolster the body defences, but also to control the infectious process. The use of antibiotics in Ludwig's angina is imperative.

Fungal Infections.—Monilial infection and actinomycosis are fungal infections of dental concern.

Monilial infection is a manifestation of superinfection by various species of *Candida* (usually *C. albicans*) following prolonged antibiotic therapy. The condition will usually resolve itself after withdrawal of antibiotics, but where this is

not possible, nystatin is the drug of choice.

Actinomycosis is a chronic inflammation of the jaws characterized by slow-growing granulomatous lesions which drain through fistulae to the skin surface. The fistulae regress spontaneously, only to recur at a later period. Actinomycosis is usually a mixed infection, commonly involving *Actinomyces bovis*, *A. israeli*, *A. hominis* and some species of *Nocardia*. In contrast to monilial infections, penicillin is the drug of choice in actinomycosis, but where penicillin resistance is suspected, the broad spectrum antibiotics may be used as an alternative.

MAJOR HAZARDS OF ANTIBIOTIC THERAPY IN DENTISTRY

Development of Resistance

The development of resistant bacterial strains to antibiotics is an increasing and perplexing problem in therapeutics. Where the great majority of staphylococci isolated in hospitals in 1944 were sensitive to penicillin, it is estimated that up to eighty-five per cent of hospital staphylococcal infections are now resistant to the action of this drug.³¹ Drug-resistant organisms can arise in two ways:

1. Natural Resistance (Genetic origin). Bacterial populations have mutants which are less sensitive to a drug than the remainder of the population. In an antibiotic environment, the sensitive organisms are inhibited whereas the less susceptible mutants are able to proliferate until they become predominant.

2. Acquired Resistance (Non-genetic origin). An antibiotic can act as a stimulus for the gradual adaptation of susceptible organisms to the drug environment. In the therapeutic use of antibiotics, a high drug concentration over a short period of time is desirable in order to combat the susceptible organisms and inhibit the further adaptation of the less sensitive mutants to the drug environment.

Hypersensitivity and Anaphylactic Reactions

Hypersensitivity and anaphylactic reactions may be due to previous sensitization or idiosyncrasies of the patient. Hypersensitivity is manifested by rashes, urticaria, joint pains, pyrexia, nausea, vomiting, diarrhoea, abdominal cramps and oedema. Anaphylaxis is a severe hypersensitivity reaction which may be fatal as a result of respiratory and vasomotor collapse.

The risk of sensitization is greater with the local use of systemic antibiotics, and this has caused an increasing percentage of the population to show allergic manifestations to penicillin.

When hypersensitivity to an antibiotic occurs, the drug should be immediately withdrawn. Antihistamines have been useful in the treatment of mild allergic reactions. When an acute anaphylactic reaction to penicillin occurs, the treatment of choice is the subcutaneous administration of adrenaline and intravenous administration of hydrocortisone, followed by resuscitation procedures if respiration is impaired. In such cases, a physician should be consulted at the earliest opportunity.

Some articles in the literature refer to the treatment of anaphylactic reactions with penicillinase.^{32,33} The use of this drug is contra-indicated for the following reasons:

- (a) hypersensitivity to penicillinase is developed more rapidly than to penicillin;

- (b) penicillinase action is slow, hence it is of little value in emergency situations; and

- (c) some patients who have had penicillin-resistant staphylococcal infections harbour antibodies to penicillinase in their system. Hence, acute anaphylactic reactions can occur after the first administration of penicillinase.

To minimize the possibility of sensitivity reactions, patients should be questioned regarding any previous allergic

manifestations, and if necessary, another antibiotic should be substituted.

Superinfection

Normally, the bacterial flora of the body remains fairly constant. When antibiotics are taken, the ecological equilibrium between organisms is disturbed, so that as susceptible bacteria are destroyed, less sensitive organisms will flourish.

Superinfection is usually associated with the broad spectrum antibiotics. Tetracyclines, and more infrequently chloramphenicol and penicillin tend to produce monilial overgrowth on oral mucous membranes, resulting in lesions varying from thrushlike plaques to follicular hypertrophic papillae and erosions. Other manifestations range from gastro-intestinal discomfort to the development of a new infection which may even be fatal. This is particularly true of staphylococcal enterocolitis which must be recognized and treated early. Hospitalization and massive doses of erythromycin are indicated in these cases.

CONCLUSIONS

Antibiotic therapy has been of enormous benefit both to the efficacy of dental practice and to the community. Not only has the control of oral infections been immeasurably facilitated, but their duration and severity has been markedly decreased. As prophylactic agents, antibiotics have made it possible to carry out operative procedures in patients who were grave surgical risks two decades ago.

Penicillin remains the antibiotic of choice for most dental infections because its use has yielded dramatic results. The oral administration of penicillin has been greatly popularized by the discovery of penicillin V which is well absorbed from the intestinal tract. Paradoxically, the first organism for which penicillin was found to be bactericidal,

Staphylococcus aureus, has become most difficult to control,³⁴ and today at least seventy per cent of staphylococcal infections in hospitals are not sensitive to penicillin. Unfortunately, these organisms are showing increasing resistance to erythromycin. Antibiotic combinations and newer drugs such as spiramycine, novobiocin and kanamycin have proved of value in combating these resistant strains.¹⁷

The tetracyclines, although they cover a broader spectrum, are not as effective as penicillin for the treatment of most oral conditions. They are bacteriostatic, and a relapse is sometimes encountered on termination of therapy. These drugs are particularly useful as primary therapeutic agents in infections which cannot be readily diagnosed or when penicillin and erythromycin are contra-indicated. However, staphylococci develop a resistance to these drugs more rapidly than to penicillin.³¹

Streptomycin has little application in dental therapeutics since oral infections are primarily due to gram-positive organisms. Moreover, it has an alarming toxicity for the vestibulo-auditory mechanism. However, penicillin-streptomycin combinations are sometimes used because of their synergism and wide range of action.

The only suitable antibiotics for topical application in dentistry are polymyxin B, neomycin and bacitracin. In combination, these drugs are effective against a wide variety of organisms, and thus the sensitizing potential of topically administered systemic antibiotics is obviated.

With prolonged antibiotic therapy, there arises the problem of oral and intestinal moniliasis. Termination of the drugs will alleviate the condition, but where this is not possible, nystatin may be used concurrently to depress fungal proliferation.

Antibiotics are not ideal therapeutic agents because their use may be accompanied by various toxic manifestations. Although these undesirable side effects

are infrequent and generally of a transient nature, fatalities have occurred, and this imposes restraint on their utilization. Where effective, other remedial procedures should be employed. Particular care should be taken to conserve the newer antibiotics for use in emergency situations where standard antibiotics are not effective or are contra-indicated.

At present, vancomycin, amphotericin B, ristocetin and nucleocidin are but a few of the drugs undergoing preliminary study. Since bacterial resistance and patient sensitivity appear to develop eventually to the drugs now in use, the search for the ideal antibiotic is still in progress.

RÉSUMÉ

Les antibiotiques ont rendu de grands services à la profession dentaire et au public. Les infections dentaires, grâce à eux, ont pu être contrôlées plus facilement; leur durée et leur gravité ont subi un déclin marqué. Les antibiotiques, utilisés comme prophylactiques, ont permis aux dentistes d'entreprendre des traitements qui auraient constitué de grands risques, il y a une vingtaine d'années.

La pénicilline, à cause des résultats dramatiques qu'elle donne, demeure l'antibiotique de choix pour la plupart des infections dentaires. La pénicilline a eu un regain de popularité quand l'isolation de la pénicilline V l'a rendue efficace, prise par la bouche et absorbée dans l'intestin. Chose étrange: le microbe qui répondait le mieux à l'action de la pénicilline, le *Staphylocoque doré*, est maintenant celui qu'elle contrôle le plus difficilement; on dit, de nos jours, que soixante-quinze pour cent des infections à staphylocoques rencontrées dans les hôpitaux ne réagissent pas à la pénicilline.

Malheureusement, ces bactéries, de plus en plus, manifestent aussi une résistance à l'érythromycine. De nouveaux mélanges

d'antibiotiques, tels que la spiramycine, la novobiovine et la kanamycine ont prouvé leur valeur pour détruire ces colonies rebelles.

Les tétracyclines, quoiqu'ayant un spectre plus grand, n'agissent pas aussi bien que la pénicilline pour traiter la plupart des infections de la bouche; elles sont bactériostatiques et on note parfois un ralentissement de leur action vers la fin du traitement. Ces médicaments servent surtout comme premiers agents thérapeutiques dans les infections qu'il est difficile de diagnostiquer ou quand la pénicilline et l'érythromycine sont contre-indiquées. Cependant, les staphylocoques deviennent résistants à ces médicaments plus rapidement qu'à la pénicilline.

La streptomycine a un champ d'action assez restreint en dentisterie, puisque la plupart des infections buccales sont causées par des *grams-positifs*. Cependant, la combinaison pénicilline-streptomycine est parfois utilisée à cause de son synergisme et de son vaste champ d'action. Les seuls antibiotiques qu'on peut employer en application topique dans la bouche sont la polymyxine B, la néomycine et la bacitracine. Ces médicaments, quand ils sont mélangés, agissent contre une grande variété de bactéries; tout en étant administrés en surface, ils sont moins susceptibles de déclencher une sensibilité aux antibiotiques absorbés par l'organisme.

Toute médication antibiotique prolongée soulève le problème de la monobiase intestinale et buccale. Il suffit de cesser la thérapeutique pour rétablir l'état normal; mais, quand il faut la continuer, la nystatine peut être utilisée pour abaisser la prolifération des champignons. Les antibiotiques n'ont pas que des avantages: ils peuvent produire des manifestations toxiques. On a rapporté des morts—et cette constatation restreint leur emploi—quoique leurs effets nocifs secondaires soient rares et passagers. Il faut donc utiliser, quand la chose est possible, d'autres médications.

Il vaut mieux de réserver les nouveaux antibiotiques pour des situations d'urgence, quand les antibiotiques ordinaires n'agissent pas ou quand ils sont contre-indiqués.

Jusqu'à maintenant, la vancomycine, l'amphotéricine B, la ristocétine et la nucléocidine sont encore au stage expérimental. Les recherches pour trouver l'antibiotique idéal se poursuivent, puisque les bactéries semblent développer une résistance et les patients une sensibilité aux médicaments actuellement en usage.

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1961 C.D.A. DIRECTORY

The 1961 issue of the C.D.A. Directory is now available from Association headquarters at \$1.00 per copy. The Directory contains a complete list of names and addresses of Association members and officials.

EDITORIALS

Pierre Fauchard Bicentennial

This year, on the two-hundredth anniversary of his death, the dental profession has paid solemn respect to the "Father of Dentistry." The memory of Pierre Fauchard, Seigneur du Grand-Mesnil, was honoured at the formal dedication on July 1-2 of a monument erected at his home, the Château de Grand-Mesnil at Orsay near Paris.

As Weinberger¹ states, "there occasionally arises in the course of centuries, a master in science, one endowed with an extraordinary capacity for labour, of superior intelligence and possessing an acuteness of observation, and who, in the brief span of his active life, is able to leave behind him sufficient material and ideas to occupy, for several generations, the close attention of ordinary men." Such a man was Pierre Fauchard, born somewhere in Brittany in the year 1678. He lived to be 83, passing away in Paris on March 21, 1761.

In an age when tooth pullers, leechers and therapeutic vendors were a familiar sight in the market places of the larger European cities, Fauchard's determination to elevate dental practice to a scientific level and the dignity of a profession made him the most widely respected and commanding figure in dentistry at the time of his death.

While it is true that Fauchard was not the creator of modern dentistry, and whereas many of his colleagues were conversant with the then available dental knowledge, his acute power of observation, fine mechanical skill, extremely active mind and his recognition of the intimate relationship between oral conditions and general health found their outward expression in the great book for which he alone will always be remembered. His *Le Chirurgien Dentiste ou Traité des Dents* in two volumes, completed in 1723, but not published until 1728, was the first complete treatise on odontology ever written — 843 pages packed with dental information, the entire doctrine of the then acknowledged dental art — which continued to be an authoritative guide for over one hundred years. The original manuscript now reposes in the library of the Faculty of Medicine of Paris.

France takes justifiable pride in her native son, Pierre Fauchard, and in his world-wide acclaim. We share that pride with her.

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Controlled Drugs: New Legislation

Elsewhere in this issue of the Journal reference appears to a recent amendment of the federal Food and Drugs Act to provide more effective control over the manufacture and distribution of amphetamine and its salts, barbituric acid and its salts and derivatives and methamphetamine and its salts. These drugs are now officially designated as "Controlled Drugs." The provisions governing their use, as set forth in Schedule G of the Act, are only slightly less stringent than those applied to narcotic drugs.

It is of interest that under the new regulations the Department of National Health and Welfare may furnish the provincial licensing board of any practitioner

with information obtained concerning the quantities of Controlled Drugs purchased and prescribed by him. Additionally, after doing so and if the need exists, the right of the practitioner to purchase supplies may be cancelled.

The new legislation and regulations are designed to preserve the use of these drugs for legitimate treatment needs and to eliminate illicit trafficking and abuse which now exists in Controlled Drugs. This purpose will command the support of dentists. They are urged to co-operate in all respects with pharmacists in providing the necessary prescriptions where these drugs are required in the treatment of patients.

Corporate Practice of Medicine and Dentistry in Canada and the United States

The position of Canadian dentists in respect to incorporation of a professional practice was recently reported in the Journal (J.C.D.A. 27:323, May 1961). It was pointed out that dentists cannot gain tax advantages from incorporation because a company cannot be qualified to carry on a practice in this country. Incorporation is also an unethical practice according to the Code of Ethics of the Canadian Dental Association.

A recent editorial¹ in the *Ontario Medical Review* sheds further light on an interesting contrast between corporate practice trends in this country and the United States. Quoting C.C.H. Canadian Limited,

a national reporting authority on business and law, the editorial states that medical corporations seem to be the coming thing in the United States where new laws in Arkansas, Georgia, Minnesota, South Dakota and Tennessee now allow medical groups, which may be as small as two or three physicians, to form corporations or associations that will operate in conformity with state laws pertaining to private corporations. Legislation is said to be pending in five other states.

The article correctly interprets the attractions of this legislation because corporate practice in the United States gives limitation of liability of the individual,

certain tax advantages and creation of an asset of saleable character.

On the other hand attention is directed to the advantage enjoyed by self-employed persons in Canada in having contributions to a registered pension plan as a deduction for income tax purposes — a concession which the self-employed in the United States have been seeking for many years.

Moreover the number of suits brought against professional people in the United States, the amount of damages assessed and the lack of professional legal protec-

tive associations such as exist in this country, might make the limitation of personal liability an appealing aspect of corporate practice, but it is questionable whether this solution of a deplorable situation is in the interest of either the dentist, the physician or the patient.

Canadian dentists, in taking a long look at all the implications of corporate practice may well prefer, like their medical colleagues, to leave matters as they are.

REFERENCE

1. Sawyer, Glenn. Corporate Practice of Medicine. Editorial. Ontario Med. Review 28:619, August 1961.

BUREAUX, COMMITTEES AND COUNCILS

Brief Presented to the Canadian Council on Hospital Accreditation

Hospital Services Committee

My name is Albert Antoni. I am professor of Oral Surgery, and acting head of the Department of Oral Surgery of the Faculty of Dentistry of the University of Toronto, and in addition, I serve as chairman of the Hospital Services Committee of the Canadian Dental Association. It is in this latter capacity, that I appear before you today. I regret that Dr. W. J. Dunn, the other representative appointed by our Committee to meet with you today, was previously committed to address the luncheon meeting of the convention of the Northern Ontario Dental Association, being held today, in

Sault Ste. Marie. Therefore Dr. T. B. Van de Mark accompanies me in place of Dr. Dunn.

You are aware that in a previous communication to this Council, the Canadian Dental Association, through its Hospital Services Committee, sought representation. We became apprised as you proceeded with your important task of accrediting hospitals that you expressed interest in and concern for dental by-laws and regulations. We are unaware, however, of any hospital dental service or hospital dental department being examined, or of any contact being made with any representative dental organization. It is also our understanding that you suggested to hospital boards that by-laws for dental service and rules and regulations for dental staffs be appropriately created. While we

greatly appreciate your action we are concerned that, in most instances, this procedure is being followed without reference, again, to any responsible and representative dental organization.

That this Council has had concern for dental services in hospitals indicates, we believe, that you appreciate dentistry's broader role in the total health program of the nation. The hospital, as we know it today, resulted from many social, economic, scientific and professional developments. The most significant criterion for justifying expansion of a hospital, to include a particular facet of health care, is the fact that the patients' interests can best be served through hospitalization. Certainly, many of the solutions to the problems of providing better and more expansive dental care to the public will require a greater utilization of hospital facilities. Consider for a moment, if you will, multiple extractions under general anaesthesia, the treatment of severe acute infections of the mouth and jaws, the management of complicated fractures of the jaws, treatment of subluxations of the temporomandibular joints, the management of physically and mentally handicapped patients, and the treatment of patients whose systemic diseases make mandatory the benefit of hospital care.

The profession of dentistry has had a consummate and participating concern in the elevation of dental education, dental research and dental practice, and it recognizes the professional responsibility and requirements of so organizing its activities that its full potential as a health service may be integrated into the total program of the nation.

Three committees of the Canadian Dental Association, the Council on Education, the Council on Public Health and the Hospital Services Committee have among their terms of reference responsibilities which relate to the ideal development of dental services in hospitals in order that hospital dental practice can make its most effective contribution to the improvement of the health of the public.

In particular, the Committee which I represent is dedicated to the study, development and compilation of information that will enable all dental societies throughout our country to assist in the establishment, improvement and expansion of hospital dental practice in the interest of the communities in which they are situated. Further to this the Hospital Services Committee offers definite guidance for ascertaining the qualifications of all applicants recommended for staff appointments and for the establishment of individual privileges and the limitation of practice privileges. It urges the profession to provide counsel and exercise disciplinary

action when indicated. We believe this Committee of the professionally responsible Canadian Dental Association should be prepared to accept the responsibility of participating in the formulation of rules and regulations which define and control responsibility and competence within a hospital dental service. To make most effective use of the efforts of a hospital dental services committee there must be established lines of communication between such a group and all others having an interest in and concern for the administration of hospitals.

We submit herewith a considerable amount of material having, we think, a particular pertinence for hospital dental practice:

1. Model by-laws for public hospital dental service.
2. Policies and regulations governing hospital dental services.
3. Rules and regulations controlling dental staff privileges in hospitals.
4. Application forms for appointment to the dental staff and application form for specialty privileges in hospitals.
5. Hospital dental service and dental internship.
6. Lectures in dentistry for nurses in training.
7. Application for approval of a dental service.
8. Application for approval of dental internships.
9. A suggested list of equipment and instruments for a hospital dental service.

Unfortunately, the results of these efforts cannot be experienced until the Canadian Dental Association, through its Hospital Services Committee, establishes a better understanding and communication with medical and hospital authorities. Since dental care is an integral and important segment of the total health care of the patient we recommend, with great respect, that you give concerned consideration to our request, that the dental profession should be represented on your Council in order that dentistry may contribute, in its own area of special competence, to the accomplishment of the purposes of your accreditation program which have already proved of such significant benefit to the hospitals and the public they serve.

I thank you gentlemen for affording me the opportunity to address you today on dentistry's behalf. I hope that this is but the beginning of a long and co-operative relationship.

Average Income of Canadian Dentists, 1959

Bureau of Economic Research

Dentists maintained their place as the fourth highest income earners in 1959. The average income for those earning enough to be taxed was \$11,605. This is almost \$1,000 above the 1958 figure. Twenty-nine per cent earned between \$10,000 and \$15,000; 16 per cent made \$15,000 to \$20,000.

This information comes from *Taxation Statistics*, an annual publication of the Department of National Revenue. *Taxation Statistics* defines "dentists" as those members of the profession "engaged in practice for profit". Salaried dentists are classified as "employees."

Dentists filing income tax returns in 1959 numbered 4,220. This represents 73 per cent of the dentists registered in Canada at the end of 1959.

Ninety-three per cent of all dentists' incomes was from professional sources while 1.5 per cent was from salaries. Dentists comprised only .10 per cent of all taxpayers, but they paid .55 per cent of all taxes. The average tax paid was \$2,075, and the total amount paid in taxes by all dentists was \$8.8 million.

In comparing the average income figures for the various provinces, it is well to bear in

mind that *Taxation Statistics'* analysis of personal income is based on a sample of tax returns. In small groups, considerable distortion may result.

TABLE 1 Average incomes of Canadian taxpayers by occupation, 1959, showing per cent increase over average incomes of 1958.

Occupation	Average income 1959 \$	Increase over avg. inc. 1958 %
Physicians and surgeons	15,737	3.10
Engineers and architects	14,983	5.07
Lawyers and notaries	14,123	7.29
Dentists	11,605	8.84
Accountants	11,033	3.82
Other self-employed professionals	6,476	3.65
All others	4,037	2.62
TOTAL	4,113	2.65

TABLE 2 Percentage distribution of dentists and of all taxpayers, by income class, 1959.

Income Class	Per cent		Cumulative per cent	
	Dentists %	All Taxpayers %	Dentists %	All Taxpayers %
under \$2,000	2.3	15.6	2.3	15.6
\$2,000 - 3,000	2.9	20.9	5.2	36.5
\$3,000 - 4,000	2.3	23.8	7.5	60.3
\$4,000 - 5,000	5.7	17.9	13.2	78.2
\$5,000 - 6,000	8.0	9.3	21.2	87.5
\$6,000 - 7,000	5.6	4.6	26.8	92.1
\$7,000 - 8,000	4.9	2.5	31.7	94.6
\$8,000 - 9,000	7.8	1.4	39.5	96.0
\$9,000 - 10,000	6.3	0.9	45.8	96.9
\$10,000-15,000	28.9	1.9	74.7	98.8
\$15,000-20,000	16.4	0.5	91.1	99.3
\$20,000-25,000	5.2	0.3	96.3	99.6
\$25,000 and over	3.7	0.4	100.0	100.0

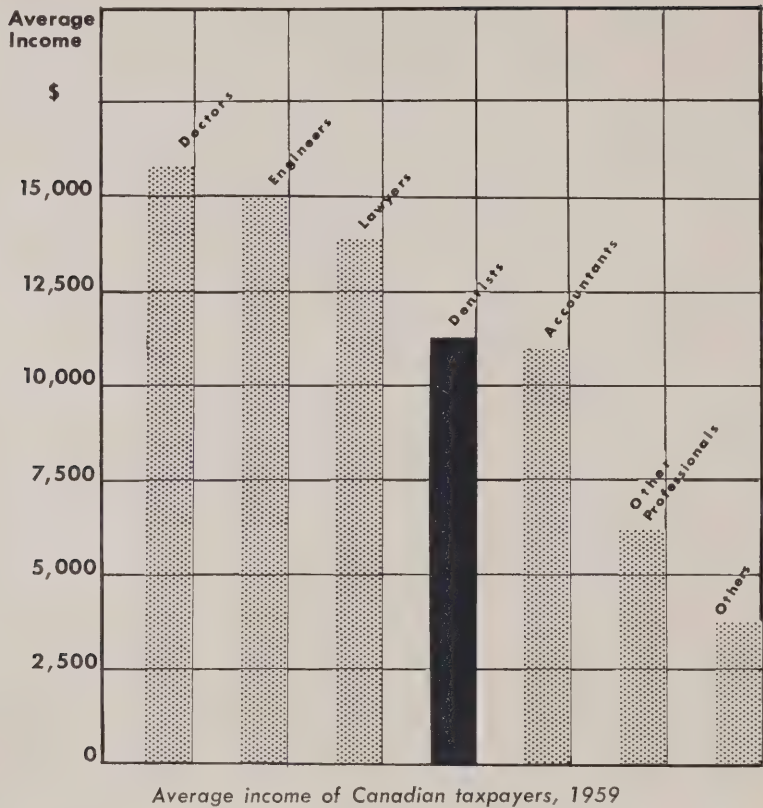


TABLE 3 Average income of dentists in 1959, by province.

Province	Average income, 1959
Newfoundland	11,458
Prince Edward Island	8,550
Nova Scotia	9,443
New Brunswick	10,192
Quebec	7,859
Ontario	12,304
Manitoba	12,939
Saskatchewan	15,520
Alberta	12,238
British Columbia	14,282
Non-residents	9,870

TABLE 4 Per cent increase in incomes and taxpayers, by occupation, 1949 - 1959.

Occupation	Per cent increase	
	Average income %	No. of taxpayers %
Physicians and surgeons	75	61
Engineers and architects	44	80
Lawyers and notaries	48	79
Dentists	102	45
Other professionals	32	133
TOTAL, all taxpayers	43	90

Since 1949, the average income of dentists has risen 102 per cent; average tax paid has increased 205 per cent. In the past decade, dentists' incomes have risen more than

those for other occupational groups. But while the number of dentists is only 45 per cent greater than in 1949, the members of other professions have increased at a much greater rate.

Survey Shows Dentists Favour Recruitment

Council on Education (National Recruitment Committee)

The old idea that dentistry is a closed corporation can be laid to rest. Dentists are interested in increasing their own numbers. They do believe they have a responsibility to recruit new members to their profession. Proof of these contentions is in the results of a recent Canadian Dental Association survey of its members' attitudes toward recruiting new dental students.

Acting on its accepted responsibility to do something about increasing the number of

Canadian dentists, the C.D.A. Board of Governors at its 1960 annual meeting instructed its Council on Education to set up a special committee "to study all aspects of recruitment of dental students." The National Recruitment Committee held its first meeting in January 1961. One of the first assignments undertaken by the Committee was a national survey of dentists' attitudes toward recruitment.

TABLE 1 Number and per cent of dentists replying to questionnaire.

Province	Number replying	Total surveyed	Per cent replying
Newfoundland	18	38	47.4
Prince Edward Island	14	35	40.0
Nova Scotia	92	229	40.2
New Brunswick	61	125	48.8
Quebec	669	1,411	47.4
Ontario	1,415	2,491	56.8
Manitoba	168	294	57.1
Saskatchewan	112	191	58.6
Alberta	265	433	61.2
British Columbia	414	659	62.8
Blank	53	...	...
Canada	3,281	5,906	55.6

TABLE 2 Number and per cent of dentists who would encourage suitable young people to consider dentistry as a career.

Province	Yes	No	Per cent yes of total replies	Per cent yes of total surveyed
Newfoundland	15	3	83.3	39.5
Prince Edward Island	12	2	85.7	34.3
Nova Scotia	74	18	80.4	32.3
New Brunswick	48	13	78.7	38.4
Quebec	518	151	77.4	36.7
Ontario	1,217	198	86.0	48.9
Manitoba	140	28	83.3	47.6
Saskatchewan	100	12	89.3	52.4
Alberta	206	59	77.7	47.6
British Columbia	321	93	77.5	48.7
Blank	44	9	83.0	...
Canada	2,695	586	82.1	45.6

TABLE 3 Reasons for encouraging suitable young people to consider dentistry as a career.

Province	Reason	Number giving reasons	Per cent of dentists	Per cent of all reasons
Newfoundland	Service to others	8	53.3	26.6
	Good income	7	46.7	23.4
	Interest in work	3	20.0	10.0
	Independence	4	26.7	13.3
	Need for dentists	6	40.0	20.0
	Social status	2	13.3	6.7
	Other	0	0.0	0.0
		30		100.0
Prince Edward Island	Service to others	5	41.7	21.7
	Good income	5	41.7	21.7
	Interest in work	4	33.3	17.4
	Independence	1	8.3	4.4
	Need for dentists	7	58.3	30.4
	Social status	1	8.3	4.4
	Other	0	0.0	0.0
		23		100.0
Nova Scotia	Service to others	32	43.2	22.8
	Good income	28	37.8	20.1
	Interest in work	19	25.7	13.6
	Independence	18	24.3	12.8
	Need for dentists	32	43.2	22.8
	Social status	10	13.5	7.1
	Other	1	1.4	.8
		140		100.0
New Brunswick	Service to others	13	27.1	18.0
	Good income	11	22.9	15.3
	Interest in work	14	29.2	19.4
	Independence	7	14.6	9.8
	Need for dentists	20	41.7	27.7
	Social status	6	12.5	8.4
	Other	1	2.1	1.4
		72		100.0
Quebec	Service to others	173	33.4	22.3
	Good income	134	25.9	17.4
	Interest in work	126	24.3	16.3
	Independence	64	12.4	8.2
	Need for dentists	216	41.7	28.0
	Social status	42	8.1	5.4
	Other	18	3.5	2.4
		773		100.0
Ontario	Service to others	512	42.1	23.7
	Good income	462	38.0	21.4
	Interest in work	287	23.6	13.3
	Independence	288	23.7	13.3
	Need for dentists	437	35.9	20.3
	Social status	156	12.8	7.2
	Other	16	1.3	.8
		2,158		100.0

Province	Reason	Number giving reasons	Per cent of dentists	Per cent of all reasons
Manitoba	Service to others	54	38.6	24.4
	Good income	37	26.4	16.7
	Interest in work	37	26.4	16.7
	Independence	22	15.7	9.9
	Need for dentists	56	40.0	25.4
	Social status	12	8.6	5.5
	Other	3	2.1	1.4
		221		100.0
Saskatchewan	Service to others	39	39.0	23.2
	Good income	33	33.0	19.6
	Interest in work	24	24.0	14.3
	Independence	16	16.0	9.5
	Need for dentists	44	44.0	26.2
	Social status	12	12.0	7.2
	Other	0	0.0	0.0
		168		100.0
Alberta	Service to others	91	44.2	25.8
	Good income	71	34.5	20.2
	Interest in work	43	20.9	12.2
	Independence	41	19.9	11.6
	Need for dentists	79	38.3	22.5
	Social status	26	12.6	7.4
	Other	1	.5	.3
		352		100.0
British Columbia	Service to others	129	40.2	22.3
	Good income	123	38.3	21.2
	Interest in work	71	22.1	12.3
	Independence	85	26.5	14.7
	Need for dentists	125	38.9	21.7
	Social status	37	11.5	6.4
	Other	8	2.5	1.4
		578		100.0
Blank	Service to others	12	27.3	18.7
	Good income	13	29.5	20.3
	Interest in work	10	22.7	15.6
	Independence	9	20.5	14.1
	Need for dentists	13	29.5	20.3
	Social status	7	15.9	11.0
	Other	0	0.0	0.0
		64		100.0
Canada	Service to others	1,068	39.6	23.3
	Good income	924	34.3	20.2
	Interest in work	638	23.7	13.9
	Independence	555	20.6	12.1
	Need for dentists	1,035	38.4	22.6
	Social status	311	11.5	6.8
	Other	48	1.8	1.1
		4,579		100.0

TABLE 4 Reasons for not encouraging suitable young people to consider dentistry as a career.

Province	Reason	Number giving reasons	Per cent of dentists	Per cent of all reasons
Newfoundland	Fear of "state dentistry"	1	33.3	25.0
	Inadequate income	1	33.3	25.0
	Encroachment of technicians	0	0.0	0.0
	Arduous work	1	33.3	25.0
	Expensive education	0	0.0	0.0
	Lack of public appreciation	1	33.3	25.0
	Uncertain future	0	0.0	0.0
	Other	0	0.0	0.0
		4		100.0
Prince Edward Island	Fear of "state dentistry"	0	0.0	0.0
	Inadequate income	2	100.0	40.0
	Encroachment of technicians	0	0.0	0.0
	Arduous work	2	100.0	40.0
	Expensive education	0	0.0	0.0
	Lack of public appreciation	1	50.0	20.0
	Uncertain future	0	0.0	0.0
	Other	0	0.0	0.0
		5		100.0
Nova Scotia	Fear of "state dentistry"	1	5.6	3.6
	Inadequate income	10	55.6	35.6
	Encroachment of technicians	1	5.6	3.6
	Arduous work	4	22.2	14.3
	Expensive education	7	38.9	25.0
	Lack of public appreciation	4	22.2	14.3
	Uncertain future	0	0.0	0.0
	Other	1	5.6	3.6
		28		100.0
New Brunswick	Fear of "state dentistry"	1	7.7	5.3
	Inadequate income	7	53.8	36.8
	Encroachment of technicians	2	15.4	10.5
	Arduous work	2	15.4	10.5
	Expensive education	3	23.1	15.8
	Lack of public appreciation	1	7.7	5.3
	Uncertain future	2	15.4	10.5
	Other	1	7.7	5.3
		19		100.0
Quebec	Fear of "state dentistry"	19	12.6	7.1
	Inadequate income	78	51.7	29.6
	Encroachment of technicians	33	21.9	12.5
	Arduous work	35	23.2	13.3
	Expensive education	30	19.9	11.3
	Lack of public appreciation	33	21.9	12.5
	Uncertain future	11	7.3	4.2
	Other	25	16.6	9.5
		264		100.0
Ontario	Fear of "state dentistry"	37	18.7	12.6
	Inadequate income	73	36.9	25.0
	Encroachment of technicians	8	4.0	2.8
	Arduous work	43	21.7	14.7
	Expensive education	36	18.2	12.3
	Lack of public appreciation	30	15.2	10.3
	Uncertain future	36	18.2	12.3
	Other	29	14.6	10.0
		292		100.0

Province	Reason	Number giving reasons	Per cent of dentists	Per cent of all reasons
Manitoba	Fear of "state dentistry"	3	10.7	7.1
	Inadequate income	12	42.9	28.6
	Encroachment of technicians	7	25.0	16.6
	Arduous work	5	17.9	11.9
	Expensive education	6	21.4	14.3
	Lack of public appreciation	6	21.4	14.3
	Uncertain future	1	3.6	2.4
	Other	2	7.1	4.8
		42		100.0
Saskatchewan	Fear of "state dentistry"	4	33.3	22.1
	Inadequate income	2	16.7	11.1
	Encroachment of technicians	3	25.0	16.7
	Arduous work	1	8.3	5.6
	Expensive education	1	8.3	5.6
	Lack of public appreciation	2	16.7	11.1
	Uncertain future	3	25.0	16.7
	Other	2	16.7	11.1
		18		100.0
Alberta	Fear of "state dentistry"	8	13.6	7.2
	Inadequate income	28	47.5	25.0
	Encroachment of technicians	20	33.9	17.8
	Arduous work	12	20.3	10.7
	Expensive education	15	25.4	13.4
	Lack of public appreciation	19	32.2	16.9
	Uncertain future	8	13.6	7.2
	Other	2	3.4	1.8
		112		100.0
British Columbia	Fear of "state dentistry"	15	16.1	9.4
	Inadequate income	27	29.0	17.0
	Encroachment of technicians	32	34.4	20.1
	Arduous work	14	15.1	8.8
	Expensive education	24	25.8	15.1
	Lack of public appreciation	30	32.3	18.9
	Uncertain future	9	9.7	5.6
	Other	8	8.6	5.1
		159		100.0
Blank	Fear of "state dentistry"	2	22.2	14.2
	Inadequate income	3	33.3	21.6
	Encroachment of technicians	1	11.1	7.2
	Arduous work	1	11.1	7.2
	Expensive education	2	22.2	14.2
	Lack of public appreciation	2	22.2	14.2
	Uncertain future	2	22.2	14.2
	Other	1	11.1	7.2
		14		100.0
Canada	Fear of "state dentistry"	91	15.5	9.5
	Inadequate income	243	41.5	25.4
	Encroachment of technicians	107	18.3	11.1
	Arduous work	120	20.5	12.6
	Expensive education	124	21.2	12.9
	Lack of public appreciation	129	22.0	13.5
	Uncertain future	72	12.3	7.5
	Other	71	12.1	7.5
		957		100.0

TABLE 5 Number and per cent of dentists who would encourage suitable young people to consider dentistry as a career, by size of city.

City Size	Yes		No	
	No.	Per cent	No.	Per cent
Under 5,000	339	85.0	60	15.0
5,000-10,000	226	77.7	65	22.3
10,000-30,000	361	82.8	75	17.2
30,000-100,000	394	86.6	61	13.4
100,000-500,000	617	79.8	156	20.2
Over 500,000	742	82.1	162	17.9
Blank	16	69.6	7	30.4
All dentists	2,695	82.1	586	17.9

TABLE 6 Attitude toward encouraging suitable young people to consider dentistry as a career by dentist's opinion on supply of personnel in his locality.

Supply of dentists in locality	Would encourage		Would not encourage	
	No.	Per cent	No.	Per cent
Shortage	1,187	90.3	128	9.7
No shortage	1,480	76.6	451	23.4

TABLE 7 Attitude toward encouraging suitable young people to consider dentistry as a career by dentists' opinion on supply of personnel in Canada as a whole.

Supply of dentists in Canada	Would encourage		Would not encourage	
	No.	Per cent	No.	Per cent
Shortage	2,355	85.5	399	14.5
No shortage	113	43.8	145	56.2

Much has been written and spoken about a shortage of dentists. Do practising dentists — the men and women dealing daily with actual dental health problems — believe there is a shortage of dentists? The answer is a resounding yes. Replies to the survey indicate that over 91 per cent of Canadian dentists believe there is a general national shortage. To the question "Is there a shortage of dentists in your locality?", almost 60 per cent replied "no".

Slightly over 82 per cent of the respondents indicated that they would be willing to encourage suitable young people to consider dentistry as a career. Since replies were received from 55 per cent (a very high response

to a mail survey) of Canadian dentists, this means that an actual 45 per cent have signified willingness to encourage new dental students.

The questionnaire asked dentists to give reasons for their attitudes toward recruitment. In effect their answers show their attitude toward their profession and their interpretation of its public image. The most common reasons given referred to the personal satisfaction of providing an essential health service of benefit to mankind. The great public need for dental care was the second most common reason dentists would try to recruit suitable students. Other reasons include generally satisfactory incomes avail-

(Continued on page 807)

CANADIAN DENTAL ASSOCIATION

L'ASSOCIATION DENTAIRE CANADIENNE

Every member of the Canadian Dental Association is being asked to complete this short questionnaire. No signature or other identification is requested. The results of this survey will help materially in the work of your Association.

Please take a few minutes today to complete the items below. A stamped addressed envelope is provided. Deadline for replies is March 1, 1961.

Nous demandons à tous les membres de l'Association dentaire canadienne de bien vouloir remplir ce petit questionnaire pour lequel aucune signature n'est requise. Votre association compte sur vous pour mener à bien une étude de la situation dentaire au Canada.

Ayez la bonté de répondre aujourd'hui même. Veuillez trouver ci-incluse une enveloppe affranchie. Date d'échéance, 1er mars, 1961.

1. (a) In what province do you practise?

Dans quelle province exercez-vous votre profession?

- (b) Check the size of the city or town in which you practise:

Marquez d'un trait la population de la ville où vous exercez:

- | | |
|---|---|
| ☐ under moins de 5,000 | ☐ 30,000-100,000 |
| ☐ 5,000-10,000 | ☐ 100,000-500,000 |
| ☐ 10,000-30,000 | ☐ over plus de 500,000 |

2. (a) In your opinion is there a shortage of dentists in your locality?

A votre avis, y a-t-il une pénurie de dentistes dans votre région?

- ☐ Yes oui ☐ No non

- (b) Considering Canada as a whole do you think that more dentists are needed?

Considérant le Canada dans son entier, croyez-vous qu'on ait besoin d'un plus grand nombre de dentistes?

- ☐ Yes oui ☐ No non

3. Would you encourage suitable young people to consider dentistry as a career?

Etes-vous prêt à encourager la jeunesse étudiante qualifiée à considérer l'art dentaire comme une carrière?

- ☐ Yes oui ☐ No non

If your answer is yes, please explain briefly why you would do so.

Si oui, veuillez nous dire pourquoi en quelques mots.

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If your answer is no, please explain briefly why you would not do so.

Sinon, veuillez nous dire pourquoi en quelques mots.

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FIGURE 1 Questionnaire employed for the survey of dentists' attitudes on recruitment.

TABLE 8 Dentists' opinions on shortage of personnel in their locality by province and size of city.

Province	City size	Shortage		No shortage	
		No.	Per cent	No.	Per cent
Newfoundland	Under 5,000	1	25.0	3	75.0
	5,000-10,000	0	0.0	1	100.0
	10,000-30,000	1	50.0	1	50.0
	30,000-100,000	5	45.5	6	54.5
		7	38.9	11	61.1
Prince Edward Island	Under 5,000			3	100.0
	5,000-10,000	3	75.0	1	25.0
	10,000-30,000	2	28.6	5	71.4
		5	35.7	9	64.3
Nova Scotia	Under 5,000	11	61.1	7	38.9
	5,000-10,000	7	33.3	14	66.7
	10,000-30,000	4	30.8	9	69.2
	30,000-100,000	13	59.1	9	40.9
	100,000-500,000	11	61.1	7	38.9
		46	50.0	46	50.0
New Brunswick	Under 5,000	5	45.5	6	54.5
	5,000-10,000	1	14.3	6	85.7
	10,000-30,000	9	56.3	7	43.7
	30,000-100,000	11	42.3	15	57.7
	100,000-500,000	0	0.0	1	100.0
		26	42.6	35	57.4
Quebec	Under 5,000	10	16.7	50	83.3
	5,000-10,000	19	25.3	56	74.7
	10,000-30,000	28	28.6	70	71.4
	30,000-100,000	19	25.7	55	74.3
	100,000-500,000	9	26.5	25	73.5
	over 500,000	86	27.5	227	72.5
	Blank	3	60.0	2	40.0
		174	26.4	485	73.6
Ontario	Under 5,000	75	52.4	68	47.6
	5,000-10,000	66	61.7	41	38.3
	10,000-30,000	99	57.2	74	42.8
	30,000-100,000	99	43.8	127	56.2
	100,000-500,000	113	46.5	130	53.5
	over 500,000	118	23.6	383	76.4
	Blank	8	80.0	2	20.0
		578	41.2	825	58.8
Manitoba	Under 5,000	16	69.6	7	30.4
	5,000-10,000	3	33.3	6	66.7
	10,000-30,000	11	57.9	8	42.1
	30,000-100,000	1	100.0	0	0.0
	100,000-500,000	64	59.8	43	40.2
	over 500,000	6	75.0	2	25.0
		101	60.5	66	39.5

Province	City size	Shortage		No shortage	
		No.	Per cent	No.	Per cent
Saskatchewan	Under 5,000	26	67.0	13	33.0
	5,000-10,000	4	80.0	1	20.0
	10,000-30,000	14	77.8	4	22.2
	30,000-100,000	14	51.9	13	48.1
	100,000-500,000	14	73.7	5	26.3
	Blank	1	100.0	0	0.0
		73	67.0	36	33.0
Alberta	Under 5,000	25	55.6	20	44.4
	5,000-10,000	9	64.3	5	35.7
	10,000-30,000	7	50.0	7	50.0
	30,000-100,000	2	20.0	8	80.0
	100,000-500,000	55	30.7	124	69.3
	Blank	1	100.0	0	0.0
		99	37.6	164	62.4
British Columbia	Under 5,000	23	67.6	11	32.4
	5,000-10,000	29	67.4	14	32.6
	10,000-30,000	37	52.9	33	47.1
	30,000-100,000	22	44.9	27	55.1
	100,000-500,000	53	34.4	101	65.6
	over 500,000	21	35.6	38	64.4
		185	45.2	224	54.8
Blank	Under 5,000	8	57.1	6	42.9
	5,000-10,000	2	50.0	2	50.0
	10,000-30,000	2	40.0	3	60.0
	30,000-100,000	4	57.1	3	42.9
	100,000-500,000	2	16.7	10	83.3
	over 500,000	3	33.3	6	66.7
		21	41.2	30	58.8
Canada	Under 5,000	200	50.8	194	49.2
	5,000-10,000	143	49.3	147	50.7
	10,000-30,000	214	49.2	221	50.8
	30,000-100,000	190	41.9	263	58.1
	100,000-500,000	321	41.9	446	58.1
	over 500,000	234	26.3	656	73.7
	Blank	13	76.5	4	23.5
		1,315	40.5	1,931	59.5

able in dentistry; it is an interesting and challenging vocation; the independence of private practice; and the respect and prestige most dentists enjoy in their communities.

From the two dentists in ten who are unwilling to recruit new dental students, reasons related to inadequate income were most common. Others included lack of public appreciation of dental services, cost of education and equipment, arduous work

("easier ways to make a living"), the encroachment of some dental technicians, in some provinces, into some phases of dental practice, and a fear of some form of state-controlled practice.

The accompanying tables provide complete breakdowns of the replies both nationally and by provinces. The questionnaire (Figure 1) is reprinted also.

DENTISTRY IN THE NEWS

The Association

PRESIDENT VISITS EASTERN PROVINCES

C.D.A. president William Miller of Vancouver visited dental societies in several eastern centres at the end of November. He was accompanied by Don W. Gullett, secretary of the Canadian Dental Association.

The president addressed meetings at Montreal on November 27, Saint John November 28, Charlottetown November 29 and Halifax on November 30. Dr. Miller and Dr. Gullett then attended a two-day meeting in St. John's Newfoundland, returning with a stop at Quebec City on December 4. They also visited Dalhousie University, McGill University and the Université de Montréal.

Immediately prior to this eastern tour, the president represented the Association at a meeting of the Mexican Dental Association.

COUNCIL ON RESEARCH MEETS

A meeting of the Council on Research was held at Association headquarters on October 31, 1961, immediately following the conclusion of the First Canadian Conference on Dental Research. In attendance were: A. F. Howatson; A. M. Hunt; G. Connell; D. L. Anderson; A. E. Hoffman; C. D. Torneck; K. A. McMurchy; J. E. Anderson; J. D. Spouge; H. S. Grey; K. J. Paynter, chairman and other members of headquarters staff. For the first time, all members of the Council were invited to attend the meeting. Only three were unable to attend.

The chairman reported that the Board of Governors had approved the proposed activities of the Canadian Dental Research Foundation (J. Canad. D.A. 27:317, May 1961).

Confirmation has been received from the federal income tax authorities that monies granted for studentships are considered tax-free income to the recipients.

Present advertising practices in the *Journal of the Canadian Dental Association* with respect to fluoride tablets were discussed and the matter was referred to the Council on Journalism for further study.

There was considerable favourable comment on the First Canadian Conference on Dental Research, held October 30-31. The Procter and Gamble Co. of Canada granted \$3,000 to the Canadian Dental Association to sponsor the conference jointly with the Canadian Dental Research Foundation.

As a result of the conference, K. J. Paynter, J. D. Spouge and K. A. McMurchy were appointed to investigate the possible formation of a Canadian Association for Dental Research.

STEERING COMMITTEE CONTINUES PREPARATION OF C.D.A. BRIEF TO ROYAL COMMISSION

The steering committee of the Executive Council which is responsible for the preparation of the Association's brief to the federal Royal Commission on Health Services began to meet weekly during November.

Suggestions for consideration in preparing the brief submitted by councils, committees and sections were reviewed by the steering committee. In the meantime, Royal Commission hearings were held in eastern Canada during the first week of November. Briefs prepared by dental organizations in Newfoundland, Prince Edward Island, Nova Scotia and New Brunswick were reviewed by the committee prior to their submission at the respective hearings.

SPECIALISTS AND SPECIALIZATION COMMITTEE MEETS

A meeting of the Specialists and Specialization Committee was held in Montreal on September 26, 1961. The proposed Royal College of Dentists was the main item of discussion.

The establishment of certification as well as fellowship in the college, the availability of fellowship in the college for non-Canadians practising in other countries, the selection of charter fellows, educational standards for fellowship, *modus operandi* and personnel of examination boards were the other subjects under discussion.

CONSTITUTION AND BY-LAWS AVAILABLE

Association headquarters has a limited supply of a new booklet containing the constitution and up-to-date by-laws of the Canadian Dental Association. The by-laws were revised extensively at the 1960 meeting of the Board of Governors and were printed in the 1960 Transactions. The new booklet contains additional revisions made at the 1961 meeting.

Canada and the Provinces

ROYAL COMMISSION HEARINGS UNDERWAY

The Royal Commission on Health Services has held public hearings in eastern Canada as follows: Halifax, October 30-November 1; St. John's, November 2-4; Fredericton, November 7-8; and Charlottetown, November 9-11.

The Canadian Dental Association's special steering committee has recommended that the secretary attend as many of the public hearings of the Commission as possible.

Hearings in western cities will begin early in the new year. Meanwhile, work is proceeding in development of a brief to be presented later by the Canadian Dental Association.

GRAVE DENTIST SHORTAGE IN NEWFOUNDLAND CITED IN ROYAL COMMISSION BRIEF

According to a news agency report, (*Canadian Press*), a brief from the Newfoundland Federation of Labour — labelled by commissioner O. J. Firestone of the Royal Commission on Health Services, as "the most moving plea for a national health plan that has come before us" — stated these facts concerning the dental situation in that province:

"Dental health services are totally lacking in most areas (of the province). In fact, for the great majority of Newfoundlanders the only form of dental treatment consists of extractions, usually performed not by dentists but by general practitioners or even registered nurses.

"Hundreds of thousands have never seen a

dentist. Many see a doctor or nurse only when a government-supported health team comes by during a boat tour of the coastline.

"Those suffering from acute dental disease then flock to the doctor or nurse, seeking treatment, and receive the only kind of treatment available: extractions.

"Others, not in an acute stage of suffering, put up with a dozen or more decayed teeth for months and years and even decades, perhaps pulling the stumps by the string-and-door technique when decay has advanced to its final stages. This, of course, undermines the entire state of physical health of the person concerned."

There are exactly forty-two dentists in the province, the brief stated — one for every ten thousand people. Outside St. John's and Corner Brook, there is one dentist for every 30,859.

DALHOUSIE UNIVERSITY URGES EARMARKED DENTAL HEALTH GRANT

In a brief submitted to the Royal Commission on Health Services on October 30, 1961, Dalhousie University called for generous assistance toward operating costs of teaching faculties, construction grants, and in many cases direct help to students.

The brief called for a federal-provincial health grant specifically earmarked for dentistry, similar to other health grants now available for medical and public health purposes.

SASKATCHEWAN TO HAVE MEDICAL INSURANCE PLAN

The medical profession in Saskatchewan has reportedly found unacceptable the new Saskatchewan Medical Care Insurance Act 1961. Under this act, every resident of the province, except dependants, is required to register himself and his dependants. Failure to register could result in a maximum fine of \$25.

The act provides "for payment for services rendered to certain persons by physicians and certain other persons". In addition to listed medical services, insured services include dental anaesthesia in hospital and "dental anaesthesia in dental surgeries designated by the commission where rendered by a physician who is a specialist in anaesthetics". Also included are "dental services where provided by a dentist in conjunction with maxillo-facial surgery".

A dentist, as defined by the act, means a dentist who holds a valid licence under "The Dental Profession Act, 1959" authorizing him to practise in Saskatchewan. A

physician is defined as "a duly qualified medical practitioner".

The act is to be administered by a commission consisting of not less than six and not more than eight members. One of the members will be the Deputy Minister of Health and at least two are to be physicians. Chairmanship may be a full-time position. There will also be an advisory council of not more than twenty-five members representing the health professions and other organizations. The advisory council is to report annually to the Minister of Health. Every five years it is to review and appraise the medical care insurance plan.

CONTROLLED DRUGS REGULATIONS

At the last session of parliament, amendments to the Food and Drugs Act were passed to provide for more effective control of amphetamine and its salts, barbituric acid and its salts and derivatives, and methamphetamine and its salts. These drugs are now officially known as Controlled Drugs. The degree of control, adopted solely to provide the necessary authority to attack and eliminate the abuse which now exists in Controlled Drugs, is only less stringent than that applied to narcotic drugs, and dentists must familiarize themselves with the new provisions. All professional people who are entrusted with Controlled Drugs are advised that under the amendments to the act very stringent penalties (up to ten years imprisonment) have been provided for anyone who is convicted of trafficking or is in possession of these drugs for the purpose of trafficking.

All purchases of Controlled Drugs made by a practitioner from manufacturers and distributors licensed to deal with these drugs, require a signed order before the supplier is permitted to release material. This also applies to medication requested for clinical evaluation.

Under the new regulations a retail pharmacist may not supply Controlled Drugs unless he receives an order or prescription from a practitioner. When issuing an order or prescription covering medications which will be supplied by a retail pharmacist, a practitioner may do so either verbally or in writing. This applies to all kinds of medication coming within the classification of Controlled Drugs.

The regulations limit the prescribing or supplying of Controlled Drugs by a practitioner to patients under the professional treatment of the practitioner and where the medication is required for the condition for which the patient is receiving treatment.

Provision also is made in the regulations requiring a practitioner to supply the Department of National Health and Welfare

with any information requested relating to the purchasing and prescribing of Controlled Drugs. Additionally, depending upon existing conditions, a practitioner may be requested by the Department to maintain records of the quantities of Controlled Drugs purchased and prescribed by him. Additionally, after doing so and if the need exists, the right of the practitioner to purchase supplies may be cancelled.

It is of interest that the new regulations respecting Controlled Drugs will be administered and enforced by the Narcotic Control Division of the Food and Drug Directorate, Department of National Health and Welfare.

NARCOTICS CONTROL ACT AND REGULATIONS

New legislation known as the Narcotic Control Act was passed at the last session of parliament and now is in force. As a result of this action the Opium and Narcotic Drug Act has been repealed.

The only change of concern to dentists other than realizing that stringent penalties are provided for anyone convicted of trafficking in narcotics, is a slight revision of the schedule to the act. In doing so, papaverine and narcotine have been deleted. This means that these drugs no longer come under Narcotic classification in Canada. It is, of course, appreciated that both of them are seldom, if ever, prescribed by a dentist but as a matter of interest, it was thought advisable to draw the attention of the profession to the deletion of these drugs from the Narcotic Schedule.

There has been no change in the standard of control relating to the conditions under which a dentist may purchase or prescribe narcotics. This applies when medication is obtained either from retail pharmacists or through licensed manufacturers and distributors.

Section 41 provides authority for the Department of National Health and Welfare to supply any information obtained concerning the quantities of narcotics purchased or prescribed by a practitioner to the provincial licensing body of the one concerned. In addition, after doing so and if the need exists, the Department may cancel the practitioner's right to purchase narcotics.

CAREERS IN DENTISTRY ADVOCATED BY THE PRESS

Under the heading "Where the big jobs are", an editorial in the *Financial Post* of September 2, 1961 advocated dentistry as a career.

Several newspapers have reprinted this editorial or commented upon it. The text of the editorial was as follows:

For parents with teenagers who want to quit school and go to work, here is an item that tells where the good money will be made—if they stay on at school.

There is now a shortage of dentists in Canada and there will be for many years. And dentists, the Income Tax Department tells us, average between \$10,000 and \$11,000 a year. They are the fourth biggest earners in Canada, edged out for first place only by doctors, engineers and lawyers. Their earnings easily outpace those of accountants, business proprietors, salesmen and most company employees, on average.

In the U. S., public health and dental associations think they have a shortage because there is only one dentist for every 1,450 persons. But in Canada, the ratio in rural areas can be as high as one dentist per 10,000 residents and even in the cities it doesn't average below one in 1,700. So, rare indeed is the dentist who has to worry about a lack of customers.

The shortage now and in future is so serious that the B.C. Dental Association is advertising for recruits and the president of the University of Western Ontario recently took to television to ask for more students in dentistry.

It is up to universities, the dental associations and the provincial governments to remedy the dearth of training facilities. But in the meantime, it won't hurt to let the youngsters know where the forces of demand and supply will work in their financial favour for a long time to come.

FIRST CANADIAN SCIENCE FAIR SCHEDULED FOR OTTAWA

The first Canada-wide Science Fair will be held May 11 and 12, 1962 at Ottawa, it was recently announced by Dr. Henri Favre, president of the Canadian Science Fairs Council and Air Vice-Marshal R. E. McBurney, chairman of the Fair. Site of the Fair will be the Science Building at Carleton University.

Purposes of the Council include stimulation of young Canadians to better understanding of the contributions of science and research, and assisting scientific professions in their support of scientific progress and education. The Canadian Dental Association is one of the sponsoring agents of the Council.

During the last school year over thirty science fairs were held across Canada and indications point to a significant increase in the number of fairs this year. The Council is encouraging teachers, community organizations, professional societies and industrial groups to initiate school and regional science fairs and is furnishing information and planning assistance to these member-fairs.

Finalists of the regional science fairs will compete for awards of national significance

at the Canada-wide Science Fair. Outstanding achievements will be recognized by professional, scientific and educational associations which sponsor the Council.

ALBERTA

Regulations for Alberta Mechanics. — The Alberta cabinet has approved regulations to govern the operations of certified dental mechanics. The chairman of the board of examiners (two mechanics, one dentist, one physician, and the chairman) stated that the regulations are quite strict for a trades standard.

Applicants for certification as dental mechanics must pass a practical and theoretical examination based on a program of studies prescribed by the board. They must be of good moral character. To be eligible for examination the applicant must have five years' practical experience in denture construction, including two years in Alberta. Applicants must be at least 21 years of age and possess a high school diploma or equivalent education.

Under the regulations, a certificate of proficiency expires after one year and can be renewed for a fee of \$25. The board may require re-examination at any time. The examination fee is \$50.

Other regulations limit types of advertising, prohibit paying commissions for obtaining patients and restrict signs to 18 x 24 inches with six-inch letters or smaller. A form has been set out for a certificate of oral health which must bear the signature of a dentist or physician before mechanics can treat people. Maximum penalties for misconduct range from \$50 for the first offence to six months' imprisonment for a third offence.

Edmonton and District Dental Society.—The first meeting of the current season on October 12, 1961, was held at the Seven Seas Restaurant. G. T. Lindskoog, president of the society, presided at the meeting.

Guest clinician was M. R. Markley of Denver, Colorado, whose subject was "A Modern Approach to Restorative Dentistry". Dr. Markley remained in Edmonton for a further three days to give refresher courses to small groups of dentists.

BRITISH COLUMBIA

B. C. Dental Association Goals for 1961-62.—K. C. Lewis, president of the British Columbia Dental Association has listed the follow-

ing items as association objectives for the current year:

1. Acceptance by the provincial government of a single dental welfare scheme for both adults and children, based on a fee for service. The dental association is willing to accept responsibility for the administration of such a scheme. In the interim, it is hoped to have the fee for treatment of children raised from \$10 to \$12 per hour.

2. A new fee schedule for the province, based upon the Stevenson and Kellogg Report and the time study conducted by Mr. W. Garriock. The proposed fee schedule would form the basis for discussion with government, employer and employee groups desiring to negotiate dental service contracts.

3. Incorporation of the British Columbia Dental Services Association under the Societies Act as an agency to provide non-profit prepayment dental plans. Following incorporation, it is hoped to initiate a pilot prepayment plan for children.

4. Expansion of the dental recruitment program. This will be accomplished by further newspaper insertions and follow-up of individual replies by the recruitment committee and by the applicant's personal dentist. Expansion of the dental scholarship and bursary program, begun last year, and establishment of a pre dental society at the University of British Columbia are planned by the public relations and recruitment committees.

5. The association will collaborate with the College of Dental Surgeons of British Columbia in the presentation of a brief to the Royal Commission on Health Services.

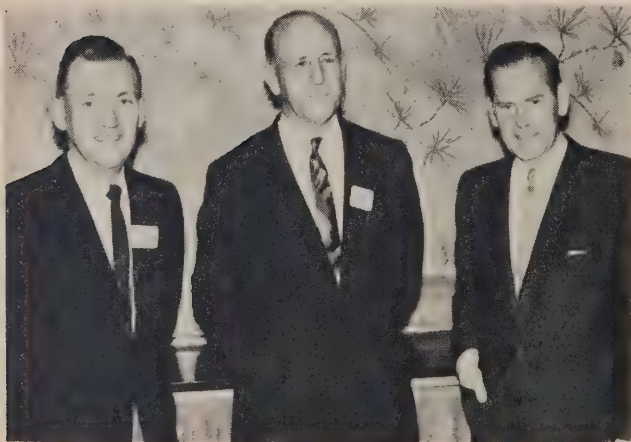
6. The association is working closely with

the College in efforts to establish a dental faculty at the University of British Columbia. *Vancouver and District Dental Society.*—One-hundred and sixty-three members were present at the opening meeting of the society on October 3, 1961 when afternoon and evening sessions were held.

Various reports were presented during the business interval, including a report describing the actions of the Council of the British Columbia College of Dental Surgeons, given by W. P. Munsie, newly-elected president of the Council. Later in the evening Dr. Munsie presented a gift to S. R. Hallman, as a token of esteem for his services as a former president of the Council. British Columbia Dental Association president J. C. Lewis outlined plans for the joint C.D.A.-B.C.D.A. convention to be held in the new Queen Elizabeth Theatre, Vancouver, June 3-6, 1962.

Thirteen new members were introduced to the society by G. S. Copithorne and admitted as members.

The guest clinician was W. A. Wykhuis of the School of Dentistry, University of Washington, who addressed the members on the subject of complete denture prosthodontics. Discussing impressions at the afternoon session, Dr. Wykhuis described a low-pressure technique which provides a cast from an accurate physiological impression. Later in the evening, the speaker dealt with aesthetics as related to full denture prosthodontics. This was demonstrated by using two screens, one illustrating correct and the other incorrect treatments. Dr. Wykhuis emphasized a new concept of aesthetic harmony based on asymmetry rather than the symmetrical set-up



Present at a recent meeting of the Vancouver and District Dental Society were from left to right: J. C. Lewis, president of the British Columbia Dental Association; William Miller, president of the Canadian Dental Association, and W. P. Munsie, president of the Council of the College of Dental Surgeons of British Columbia.

New Request for U.B.C. Dental Faculty.—A Renewed request to provide a dental faculty at the University of British Columbia was made to Premier W. A. C. Bennett on September 27, 1961. The proposal was made by J. B. Macdonald of Harvard University School of Dental Medicine. Dr. Macdonald, a Canadian, who carried out an exhaustive survey for the university in 1956, was again retained to up-date the 1956 report. The revised report was approved by the university before going to the premier.

The move coincided with renewed pleas from British Columbia health unit boards that a dental school be established and reports that the British Columbia Dental Association's recruitment campaign is producing results. Details of the present proposal were not immediately disclosed, but it is known to be a revision of the 1956 estimate of \$1.75 million for buildings and equipment and an operating cost of \$280,000 per year. The school would graduate about forty dentists and twenty dental hygienists per year. The proposed faculty of dentistry would be operated in conjunction with the medical school, now housed in new buildings that cost \$3 million, and the proposed \$60 million university hospital to be completed in 1966 according to present plans.

The appointment of Dr. Macdonald as president of the University of British Columbia, effective July 1962, was announced on November 29, 1961.

MANITOBA

Manitoba Children's Dental Health Week.—The Manitoba Dental Association and the Manitoba Department of Health and Welfare joined forces to sponsor a Children's Dental Health Week, October 22-28, 1961. Throughout the week, posters, pamphlets, television and radio programs and newspaper stories publicised steps to combat dental diseases in children.

Emphasized as protective measures were fluoridation of communal water supplies, promotion of good dental care habits in children, adherence to Canada's Food Guide, regular dental care and support of dental treatment plans for underprivileged children.

NEW BRUNSWICK

Saint John Dental Society.—The society has consistently urged the provincial government to enact permissive legislation enabling municipalities to have the privilege to vote on the question of fluoridation of communal water supplies. The Minister of Health and Social Welfare has now given assurance that

this matter is being given further consideration.

The society has embarked on an active program for the current season. Two interesting meetings have been held to date. The October meeting featured an illustrated lecture on surgical techniques preparatory to prosthodontic procedures. Colonel A. D. Rogers, Command Dental Officer, Halifax, Nova Scotia, was the clinician. Major D. McDermott and Captain B. Johnston of the Royal Canadian Dental Corps, Camp Gagetown, were also present as guests.

Officers elected for the current year are: W. O. Mulligan, president; A. E. Cunningham, vice-president; H. S. Cummings, treasurer; and A. Steuermann, secretary.



S. K. WHETMORE

S. K. Whetmore Named Associate Editor.—S. K. Whetmore of Lancaster, New Brunswick, has been named an associate provincial editor of the *Journal of the Canadian Dental Association* for New Brunswick. He replaces J. S. Edgecombe, of Saint John, New Brunswick.

Dr. Whetmore graduated in dentistry from the University of Toronto in 1929. He served with the Canadian Dental Corps from 1940-45. Dr. Whetmore was on the staff of the D.V.A. Hospital, West Saint John, New Brunswick until 1952. He has practised in Lancaster, New Brunswick since 1955.

NOVA SCOTIA

Halifax County Dental Society.—President W. G. Caldwell presided at the regular monthly meeting of the society held at the Nova Scotian Hotel on October 25, 1961. The meeting was addressed by K. M. Kerr, professor of Prosthetic Dentistry, Dalhousie University, on the subject "Principles of Partial Denture Design".

The executive of the society was empowered to name an advisory committee to col-

laborate with dental laboratory technicians in the Halifax-Dartmouth area in their efforts at establishing a formal organization.

Dr. J. D. McLean requested the submission of applications in connection with forthcoming appointments to the courtesy staff of the Children's Hospital.

Cape Breton Island Dental Society. — The first meeting of the Cape Breton Island Dental Society for 1961-62 was held at Sydney City Hospital, Sydney, Nova Scotia.

The following officers were named for the current year: T. Simon of Glace Bay, president; W. B. MacKeigan of Sydney Mines, vice-president; G. G. Turner of Glace Bay, secretary; and D. W. MacAulay of Sydney, treasurer.

ONTARIO

Toronto Endodontic Study Club. — A. A. Antoni, professor and acting head of the Department of Dental Oral Surgery, University of Toronto, addressed the members on the occasion of the first meeting for the year 1961-62. The Faculty Club of the University of Toronto was the site of the meeting held on October 18, 1961. Dr. Antoni dwelt on the indications and contra-indications for apicoectomy. Two contra-indications stressed were: (1) poor general health of the patient and a history of rheumatic fever, renal disease, cardiac disease, diabetes mellitus, thyrotoxicosis or severe local oral infection; and (2) traumatogenic occlusion affecting the tooth to be resected, which cannot be corrected.

Dr. Antoni prefers root canal obliteration first, almost immediately followed by root resection. He discussed preoperative preparation of the patient in detail, reviewing the applicable hypnotics, narcotics analgesics and antibiotics. Dr. Antoni favours preoperative medication and local anaesthesia.

Describing the root resection technique which he employs, Dr. Antoni stated that he preferred the standard triangular flap rather than a semi-lunar flap. In the lower anterior region, he employs a second vertical incision and raises a quadrilateral flap. This is done because of a tendency of the thin tissues in that area to tear. The root resection, itself, is kept to a very minimum; hardly ever is it necessary to cut off more than a minute portion of the root. It does not matter if the root projects into the apical bony defect. Proper curettage of the area is most important. It is necessary to adapt instruments for this work. The mistake is to use curettes that are too large.

The speaker emphasized the importance of postoperative suturing. The use of post-operative pressure packs, adequate post-

operative medication and after-care were also discussed. The speaker repeatedly stressed the fact that endodontic procedures and root surgery are equally applicable to the management of large cysts and benign neoplastic lesions.

QUEBEC

Montreal Dental Club. — The first monthly meeting of the 1961-62 season was held at the Queen Elizabeth Hotel on September 25, 1961. Admitted as new members were: R. Archambault, E. C. Hickey, D. G. Karyanides, D. R. Leith, T. P. McCrory, P. N. Neroutsos and W. B. Zimakas.

E. P. Millar, lecturer in the Department of Oral Surgery, McGill University, addressed the meeting on "Current Concepts in Oral Surgery as Applied to General Practice". Discussing the use of an air turbine in oral surgery, Dr. Millar stated that the advantages of less time required, less trauma and greater patient acceptability were outweighed by the disadvantages inherent in the machine. These he listed as being the torque of the instrument, the type of coolant used (unsterile tap water or an oil and water mixture), the pressure exerted by the coolant, and the design of the instrument which does not provide a straight handpiece.

Dr. Millar also reviewed surgical techniques for ridge extension in prosthodontic patients and for exposure of an impacted cuspid in orthodontic patients. He expressed his belief that impacted third molars not exposed to the oral cavity should be left alone as long as they are not causing any resorption of the second molar. If, however, partial eruption has occurred, the tooth should be removed before it causes a pericoronitis.

In the case of a dento-alveolar abscess accompanied by swelling, the tooth should be removed only if drainage can be established immediately, the tooth can be removed easily and with a minimum of trauma, and antibiotic therapy is used in support. Failing this, measures must be taken to reduce the swelling before tooth removal is attempted. *College of Dental Surgeons of the Province of Quebec.* — The Board of Governors of the College of Dental Surgeons of the Province of Quebec met on May 24 and September 15, 1961.

The board accepted unanimously the model regulations for hospital dental services which had been drawn up in collaboration with the Quebec Hospital Association. This association now has a permanent dental committee. A copy of the regulations may be obtained from R. M. LeBlanc, registrar-secretary of the College.

During the year 1960-61, 139 convictions for illegal practice were secured. A total of \$22,050 was levied in fines.

A joint committee of the College and of the Association of Dental Technicians of the Province of Quebec will shortly commence a program of accreditation of dental laboratories. Certificates of competence in advanced dental technology will be issued to eligible technicians. Readjustment of laboratory fees and improvement of the salary structure for dental laboratory employees will then be studied in order to combat one of the major causes of illegal practice.

A public relations adviser has been retained by the committee on public relations. Also, more than forty dentists have agreed to contribute short articles for submission to the press.

The recruitment committee has embarked on an ambitious program aimed at individual dentists, local dental societies, school principals and college deans, college students and college magazines. The enrolment of sixty first-year students at the Université de Montréal and twenty at McGill University attest to the value of this program.

SASKATCHEWAN

Regina and District Dental Society. — The first meeting of the Regina and District Dental Society was held at the Assiniboia Club on October 10, 1961. New officers elected were: G. W. E. Schwann, president; J. G. Mitchell, vice-president; G. J. Evenden, secretary; and A. W. Geisthardt, treasurer.

A new member was introduced in the person of Dr. Duperron. Out-of-town guests included H. S. Jamieson of Moosomin, and F. R. Smith of Saskatoon, registrar-secretary of the College of Dental Surgeons of Saskatchewan.

The Regina and District Dental Society plans to present a series of short interviews and discussions on the Regina television station during the coming winter as a public relations measure.

International Items

SWITZERLAND

An international symposium on the "Present Status of Caries Prevention by Fluorine Containing Dentifrices" was held at the Dental Institute of the University of Zürich, November 2 and 3, 1961, on the occasion of the

inauguration of the new laboratory of the university's Experimental Caries Research Centre in the Dental Institute.

The symposium, which ended with a workshop conference of the essayists, was attended by numerous guests from Switzerland and scientists from various European and overseas research centres, among them Dr. G. Nikiforuk of the University of Toronto.

The proceedings of the symposium, edited by H. R. Mühlemann and K. G. König, will be published in December 1961 by H. Huber Verlag (Publishing Company), Berne/Stuttgart.

UNITED STATES

New Dental Program for the Handicapped. — Eleven dental schools will co-operate with the U. S. Public Health Service in the initial year of a four-year program designed to teach dental students to treat handicapped, chronically ill, and aged patients.

Sponsored by the Division of Dental Public Health and Resources, the program inaugurates a major effort to prepare undergraduate dental students to meet the treatment needs of people whose physical conditions either preclude their attending dental offices for treatment or demand the use of specialized treatment procedures.

The projects will permit dental schools to experiment with methods for teaching students to handle the dental problems of special population groups. Although each school will establish the pattern of its own project, the program as a whole will encompass the study of both bedfast and ambulatory patients of all ages. Techniques of care in the home, in institutions, and in the dental office will be developed or improved. Ultimately, the schools' experiences should provide data and knowledge necessary for the development of dental public health programs for special groups.

Announcement of Replantation Registry at University of Pennsylvania. — The University of Pennsylvania has announced a registry for replantation cases. The purpose of the registry is to keep accurate records of teeth that have been avulsed and replanted in their sockets in order to determine the probable life-span of such teeth, and the best method of treatment.

Dentists desiring to register their cases with the replantation registry may send for a folder, the cost of which is \$1.00. This consists of a radiographic film mount, a questionnaire providing information on the procedure which was used in replanting the tooth, and an instruction sheet for replanting teeth, but the instructions need not be fol-

lowed in order to register cases. Only recent or current cases will be registered. It is planned to publish a progress report every three years and those participating will be named as co-authors of the report. Further information may be obtained from the Re-plantation Registry, Endodontic Department, School of Dentistry, University of Pennsylvania, Philadelphia 4, Pennsylvania, U. S. A.

Dentifrice Spending Tops \$300 Million. — Civilian purchases in the United States during 1960 for dentifrices and mouthwashes totaled \$317.8 million, according to a report published in the October 16 issue of *Advertising Age*, a trade weekly. Total spending for all drugs, cosmetics and toiletries during that year was more than \$8.5 billion. The same study said that \$41.3 million was spent during 1960 in advertising dentifrices and mouthwashes in magazines and on television, with all but \$6.5 of this total going to television.

Forthcoming Dental Meeting.—The following meetings of dental societies have been scheduled for the winter months of 1962:

The 1962 meeting of the American Academy of Oral Pathology will be held in Indianapolis, April 5-7, 1962. Application for elevation to fellowship must be submitted by January 1, and those for membership by February 1, 1962. Requests for registration at the annual slide seminar must be made by January 15 for fellows, February 15 for members, and March 15 for guests. Only sixty places may be reserved. Applications and inquiries should be directed to Dr. R. J. Gorlin, professor and chairman, Division of Oral Pathology, School of Dentistry, University of Minnesota, Minneapolis 14, Minnesota, U.S.A.

The Fifth District Dental Society of Atlanta, Georgia will celebrate the fiftieth anniversary of the Thomas P. Hinman Dental Meeting, March 25-28, 1962. This dental meeting is one of the oldest postgraduate dental clinics in the United States. A cordial invitation to attend the meeting is extended to members of the Canadian Dental Association. Further information may be obtained from the office of the general chairman, Nathan Blass, Professional Bldg., 727 West Peachtree Street, N.E., Atlanta 8, Georgia.

The annual meeting of the American Association of Endodontists will be held at the Fontainebleau Hotel at Miami Beach, Florida, February 11-14, 1962. The theme of the meeting will be "The Biology of the Apical and

Periapical Tissues". Drs. F. N. Bhaskar, H. Blechman, D. W. Cohen, P. Goldhaber, D. Laskin, M. Massler, H. Sicher, and C. E. Wilde, Jr. are the clinicians. The meeting is open to all members of the dental and allied professions.

WORLD HEALTH ORGANIZATION

Canadian Dentist Attends W.H.O. Expert Committee. — An expert committee on the standardization of reporting of dental diseases and conditions was convened by the World Health Organization in Geneva, Switzerland, November 14-20, 1961, under the chairmanship of F. B. Rice, chief dental health officer of the World Health Organization.

R. M. Grainger, professor of Dentistry (Statistics), University of Toronto, was the only Canadian member of the 8-member expert committee.

Canadian Dental Schools

UNIVERSITY OF MANITOBA

Summary of Registration for Session 1961-62. —The Faculty now has four full years in operation and will graduate its first class in 1962. The break-down of registration is as follows:

First dental year, 33; second dental year, 27; third dental year, 20; and fourth dental year, 15. The student body is rapidly becoming an enthusiastic sporting group with active participation in university football, basketball and hockey. Mr. O. Heschuk has been elected president of the University Students' Athletic Association. This is a distinctive honour for Mr. Heschuk and also for a faculty of ninety-five students, part of a university student body of four-thousand.

Recent Visitors. — Professor G. E. M. Hallett and Professor Lovell from the Sutherland Dental School, University of Durham, England, were recent visitors to the Faculty. Both are responsible for building a new dental school in their university and it was a pleasure to be able to discuss mutual problems. Professor Hallett is dean and head of the Department of Orthodontics; Professor Lovell is head of the Department of Operative Dentistry at Sutherland Dental School.

Professor R. B. Lucas, dean, Royal Dental Hospital, University of London was also a recent visitor to the Faculty. Professor Lucas inspected the clinical, teaching and research facilities and met two members of his former staff, Drs. J. D. Spouse and J. R. Trott.

Dr. I. Schiaky, dean, Faculty of Dentistry, University of Jerusalem, was another recent visitor.

Staff News. — G. A. Brass, professor and head of the Department of Operative Dentistry, was a recent guest lecturer at the American Academy of Gold Foil Operators. The subject of the lecture which Dr. Brass delivered to this meeting in Philadelphia was "Gold Foil — Discipline for Service".

At the recent Canadian Conference on Dental Research held in Toronto, October 30-31, 1961, papers were delivered by Z. Kasloff, I. Kleinberg, and J. R. Trott. Abstracts from these papers will subsequently be published in the *Journal of the Canadian Dental Association*.

UNIVERSITY OF TORONTO

Summary of Registration for Session 1961-62.

—A total of 644 students are registered in the Faculty of Dentistry for the current academic year. This compares with 558 registered in 1960-61. The breakdown of registration is as follows:

Undergraduate course. — Preprofessional year, 123; first dental year, 122 (including 2 special students); second dental year, 112 (including 2 special students); third dental year, 114; fourth dental year, 85.

Dental Hygiene. — First year, 42; second year, 16.

Postgraduate and graduate courses. — Diploma courses, 20; Bachelor of Science in Dentistry, 5; Master of Science in Dentistry, 5.

New Director of Burlington Orthodontic Research Study.—R. M. Grainger has been appointed director of the Burlington Orthodontic Research Study as of July 1, 1961, replacing E. P. Harvold. In addition, Dr. Grainger has been appointed curator of the Burlington material and documents stored at the Faculty of Dentistry.

Recent Visitors.—Sidney Blackman, director of the Department of Radiology, Royal Dental Hospital, University of London, visited the Faculty on October 4-7, 1961.

Professor G. E. M. Hallett, dean, Sutherland Dental School, University of Durham, England, and professor Lovel, director of the Dental Hospital, University of Durham, visited the Faculty on October 6.

Professor R. B. Lucas, dean, Royal Dental Hospital, University of London, visited the Faculty on October 19.

C. deVere Green, a graduate of the Faculty of Dentistry, University of Toronto, and now practising in London, England, visited the Faculty on October 23.

Staff News. — R. M. Grainger, professor of Dentistry (Statistics) was a member of an Expert Committee for the Standardization of Reporting of Dental Diseases convened by the World Health Organization in Geneva, Switzerland, November 14-20, 1961.

G. Nikiforuk, professor of Preventive Dentistry and head of the Department, participated in an International Symposium on the Present Status of Caries Prevention by Fluorine held at the Kariesforschungstation, Zahnärztliches Institut, at the University of Zürich, Switzerland, November 2-3, 1961. He also attended the inauguration of the new building of the Dental Institute of the University of Zürich, November 4-5, 1961.

Research grants have been awarded to R. C. Burgess and J. G. Dale by the United States Department of Health, Education and Welfare. The grants are tenable for four and five years respectively.

Retiring Staff Members Honoured. — At a dinner on October 11, 1961 at the Faculty Club, members of the teaching staff made suitable presentations to Drs. F. Martin, D. M. Tanner, O. J. Yule and H. J. Mullett upon their retirement from the staff.

Royal Canadian Dental Corps

1961 GENERAL EFFICIENCY MILITIA COMPETITION AWARDS ANNOUNCED

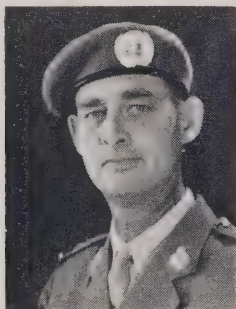
The Moore Trophy, which is awarded to the R.C.D.C. militia unit judged to be most efficient during the training year, was won by No. 61 Dental Unit, Vancouver, commanded by Lt.-Col. F. K. Currie.

The Trelford Trophy, which is given to the militia unit considered runner-up in the competition, was won by No. 57 Dental Unit with headquarters in Winnipeg. Lt.-Col. M. J. Snidal is commanding officer.

The Saskatchewan Dental Association Memorial Trophy, which is presented to the militia unit most improved in general effi-

ciency, was awarded to No. 56 Dental Unit in Toronto, commanded by Lt.-Col. A. Z. Henry.

Congratulations are extended to the winners and honourable mention is made concerning the efficiency of No. 50 Dental Unit, Halifax; No. 51 Dental Unit, Saint John, New Brunswick; and No. 60 Dental Unit, Edmonton.



Major E. J. C. Small of Halifax, senior dental staff officer, United Nations Emergency Force, Middle East.

OFFICERS ATTEND POSTGRADUATE COURSES

Colonel C. E. Purdy, Commandant, the R.C.D.C. School, attended a course on occlusion and occlusal correction at the University of Toronto, October 16-20, 1961.

Major M. P. Quinn, Vancouver, was a candidate at an oral surgery course held at the University of Oregon October 23-26.

DENTAL OFFICERS ATTEND VARIOUS MEETINGS AND CONFERENCES

Colonel Shillington Attends A.D.A. Meeting.—Colonel G. B. Shillington, Deputy Director of Dental Services visited Philadelphia recently to attend the American Denture Society meetings and the American Dental Association convention.

Lt.-Col. Butler at Montreal Fall Clinic.—Lt.-Col. J. G. Butler, commanding officer, No. 15 Dental Company, Montreal, represent-

ed the Director General at the annual Montreal Fall Clinic on October 23-25, 1961.

Colonel Roger and No. 12 Coy. Officers Attend Dental Meetings.—Colonel A. T. Roger, commanding officer of No. 12 Dental Company, Halifax, attended the Atlantic Provinces Dental Convention in Charlottetown in September. Major J. I. Gordon and Captain W. F. Shaw also attended and presented table clinics.

Major T. C. Gaudet presented a paper to the North Shore (New Brunswick) Dental Society entitled "The Role of the Dentist in National Disaster and Casualty Care".

Colonel Millar Participates in Conference at Kingston.—Colonel I. A. L. Millar, Director of Dental Services (R.C.N. and R.C.A.F.) took part in a study group on field exercises held at the Canadian Army Staff College in Kingston on October 23-26, 1961.

Major Brick Attends "Oral Health" Meeting.—Major J. C. Brick of Ottawa represented the Director General at the October meeting of the editorial board of *Oral Health* magazine held in Toronto on November 1, 1961.

Major Protheroe at Research Conference.—Major D. H. Protheroe presented a paper entitled "Dental Research in the Royal Canadian Dental Corps" at the First Canadian Conference on Dental Research held in Toronto, October 30-31, 1961.

RE-ENROLMENT AND POSTINGS

The following postings have recently taken place in the Corps:

Major J. I. Gordon to R.C.A.F. Station St. Hubert from Halifax.

Captain J. R. A. Vincent to R.C.A.F. Station Goose Bay, Labrador, from Montreal.

Major A. L. Kelland to Oakville from No. 35 Field Dental Unit, France.

Major P. J. J. Coulombe to No. 4 Field Dental Company, Germany, from R.C.A.F. Station Clinton, Ontario.

Major J. A. Lauzière to Winnipeg from Camp Shilo, Man.

Capt. L. A. Reynolds of Queensport, Nova Scotia, has re-enrolled in the Corps after a brief period as a civilian.

Public Health

FLUORIDATION WINS, LOSES IN ALBERTA

Fluoridation failed to win the necessary two-thirds majority in recent plebescites at Edmonton, Calgary and Brooks. The towns of St. Albert and Athabasca overwhelmingly approved fluoridation.

At Coaldale, 66.76 per cent was the majority given fluoridation, although a dispute has arisen about including spoiled ballots in arriving at the percentage. Precedent shows that only valid ballots should count in totaling the number of ballots cast. Ralston, a Crown village of federal government employees, voted 215-43 for fluoridation. Leduc approved the measure last March but waited for results from Edmonton, where Leduc purchases its water. Leduc council is taking steps to fluoridate the water purchased from Edmonton.

As in the fluoridation plebescite of 1957, Calgary voters were almost evenly split with slightly over 50 per cent against fluoridation. Plebescites in Edmonton have shown 64.6 per cent in favour in 1957, 55.7 per cent in favour in 1959, and 61.8 per cent in favour of fluoridation in October 1961. Provincial legislation requires a majority of 66½ per cent in favour of fluoridation.

An analysis in the Calgary *Herald* showed that about 42 per cent of the eligible voters voted and that polling stations in upper middle and high income areas favoured fluoridation, while lower income areas of the city recorded more votes against the measure.

NEW APPOINTMENT

H. G. W. Bennett of Drumheller, Alberta has been appointed as dental officer of the Drumheller Health Unit. Dr. Bennett graduated from the Faculty of Dentistry, University of Alberta in 1959.

WINDSOR COUNCIL AUTHORIZES FLUORIDATION

Fluoridation of the water supply at Windsor, Ontario, has been authorized by city council, reports the Windsor *Star*.

Council had previously deferred action on fluoridation to give anti-fluoridationists time to circulate a petition. (By recent Ontario legislation, municipalities must hold plebe-

scites if 10 per cent of the voters petition for them.) The minimum number of signatures was not obtained. Present plans call for a plebiscite at the time of the December 1962 elections but fluoridation is to begin in the meantime.

ONTARIO PUBLIC HEALTH DENTISTS MEET

A business meeting of the Dental Section, Ontario Public Health Association, was held on October 2, 1961 in Toronto. M. E. Jarrett, chairman of the O.P.H.A. pension committee, reported on a proposed portable pension plan, involving a 2.91 per cent employer contribution, a 6 per cent employee contribution, yielding 2 per cent of gross income per year to a limit of 70 per cent.

Section officers elected for the year 1961-62 are: J. W. M. Lawrence, chairman; H. S. Grey, vice-chairman; and R. E. Feasby, secretary.

Research

CONFERENCE ON DENTAL RESEARCH

The first Canadian Conference on Dental Research held at the Faculty of Dentistry, University of Toronto on October 31, 1961 was an outstanding success. The conference was organized under the auspices of the Canadian Dental Research Foundation and the Canadian Dental Association.

A total of twenty papers was submitted by research workers representing six Canadian dental schools and the Royal Canadian Dental Corps. At a dinner on Monday evening, October 30, the speaker was Mr. Alex B. Hill who presented some thought-provoking views of research in general from the layman's standpoint. Mr. Hill is a former president of the Canadian Heart Foundation. Those who participated in the program and a sizeable group of observers were enthusiastic about this conference to the extent that discussion took place in regard to conferences of a similar nature in the future.

The generous financial support of the Procter and Gamble Co. of Canada Ltd. is acknowledged with gratitude.

BOOK REVIEWS

Carter's Principles of Microbiology

Prepared by: Alice Lorraine Smith.
Published by: The C. V. Mosby Co., St. Louis, 1961. Ed. 4.
Pages: 603. Illustrated. Price: \$6.00.

In this fourth edition the author has managed to encompass the salient facts and features of microbiology in a text of reasonable length and cost. The emphasis is medical and "those micro-organisms significantly related to human disease" (p. 55) are dealt with in comprehensive fashion in sections on bacteriology, mycology, virology and parasitology. Chapters concerned with allergy, immunity, immunization, sanitation, control of micro-organisms by physical and chemical means (including antibiotics), practical disinfection and sterilization, round out the medical and public health aspects of the subject.

While the medical interest is paramount, the general significance of micro-organisms has not been neglected and opportunity has been taken to point up their impact on life and daily living through their role in nature and their value in industry and other spheres in a chapter entitled "The microbe's daily contribution".

The extensive revision and expansion of the text material has left little to suggest. Perhaps mention should have been made (p. 260) of the fact that erythromycin is generally regarded as superior to penicillin in dealing with *C. diphtheriae*. With space so precious, a long paragraph (p. 265) on toxin-antitoxin immunization might have been deleted in the pruning operation in this toxoid age. Again, *daily* washing with soapsuds of "the woodwork of school houses, churches, theatres, or other places of public assembly" (p. 494) sounds like a counsel of perfection rather than *practical* disinfection and sterilization. Lastly, it is surprising to read in the preface that "literally billions" of persons received the Sabin polio vaccine in its trial period. With a world population of about three billion, this sounds like an overstatement.

For dental, nursing and pharmacy students this edition would seem to constitute a very adequate text. Medical students might profit from more detail and theory but would, nevertheless, be well versed in the subject if they mastered the material pre-

sented here. General students might use it to advantage also, as goodly coverage of the techniques, principles and broad application of microbiology has been incorporated. A medical flavour, in general, serves to create interest. The studied avoidance, however, of a chemical approach would seem to make it less suitable for science students.

The concise production, well printed and illustrated and with helpful review sections, is a matter for congratulation to the present author.

F. O. Wishart

The Evolution of Professional Ethics in

Prepared by: John E. Gurley.
Published by: The American College of Dentists, St. Louis, 1961.
Pages: 113. Price: \$8.00.

This text gives an excellent and concise description of the evolution and historical development of the ethical concept and how this has evolved down through the ages to the present day.

The chapter on book reviews and comments makes very interesting reading, with the Universal Declaration of Human Rights coming to the forefront as one of the most outstanding declarations ever made. Were nations and individuals to abide by the articles as set down in this declaration, the world would be a much better place in which to live.

In the latter part this text deals with some problems particularly applicable to our own profession. However, when one considers that the word ethics is derived from a Greek word meaning custom, we can realize quite readily with our changing customs and our changing concepts of practice, that it would be impossible to write any text book with all the answers to the many problems which arise from time to time, because we live in an era of constant change.

Anyone reading this book who understands the fundamental concept and requirements of ethics, would benefit greatly in dealing with the public and with his own confreres. Because of this, the book would be a valuable addition to any library.

J. P. McGuigan

The Putnam Medical Dictionary

Prepared by: N. B. Taylor and A. E. Taylor.

Published by: The Macmillan Co. of Canada Ltd., for G. P. Putnam's Sons, New York, 1961.

Pages: 933. Price: \$6.25 (Student Edition \$4.75).

This volume is a pocket-size medical dictionary composed for members of the nursing and allied professions. The authors have culled from it the rare and little used terms and have retained a very adequate and practical reference list. The choice of including many terms is often arbitrary and the present book reflects the combined experience of the authors whether or not to do so. The omission of the derivation of words is a case in point. The book is not a substitute for a complete medical dictionary, being intended for use 'on-the-spot'. The choice of charts and tables in the appendix will be very helpful to the health worker as a ready handbook reference.

Speaking from the dentist's point of view the text re-emphasizes the need for a purely dental dictionary, as for example, the inclusion of the terms 'dentinitis' and 'dentalgia' to describe conditions that the reviewer believes do not exist. Again, words of mixed Greek and Latin origin such as 'orthodontia' and 'periodontia' should be corrected to their single root form. It is not, however, the reviewer's intent to have these comments seriously detract from what is really a very well-prepared pocket dictionary.

H. A. Hunter

Nitrous Oxide in Dentistry

Prepared by: J. G. Bourne.

Published by: Year Book Publishers Inc., Chicago, 1960.

Pages: 181. Price: \$6.00.

This English author, an anaesthetist, has written a most pessimistic monograph concerning the role, dangers and possible alternatives of nitrous oxide for the ambulatory patient in dentistry.

He points out that most of the work of anaesthetising the ambulatory patient, estimated at about two and one half million patients for the extraction of teeth in the United Kingdom yearly, is done by general medical practitioners and dentists. These, with a minimum of training in anaesthesia, he classifies as "occasional anaesthetists". This demands that their methods be simple, effective and have a wide margin of safety.

Bourne submits that it is debatable whether nitrous oxide, the anaesthetic of choice in three-quarters of the cases mentioned here, meets a single one of these three basic requirements.

From a random questionnaire, he determined that delayed recovery from nitrous oxide anaesthesia, which he regards as a sequel of severe cerebral anoxia is much more common than realized. He feels that the main cause of the anoxia is fainting which could be avoided completely if the patient were lying down, but that an important contributing factor is the restriction of oxygen in the anaesthetic mixture. He notes that even in the most experienced hands difficulties are both frequent and considerable. Struggling is common and to control the patient and anaesthetist has to rely mainly on the restriction of oxygen, with supplements seemingly of little help in these more difficult cases.

A part of the monograph is devoted to a review of the usefulness of nine anaesthetics that might be used by the occasional anaesthetist. Broadly speaking, he suggests nitrous oxide and ethylene are too weak, ethyl chloride too dangerous, and chloroform, trichloroethylene and ether too soluble to meet the requirements of anaesthesia for ambulatory patients.

Divinyl ether and halothane come nearest to doing this but other than a reference to the popularity of halothane in the United Kingdom and pointing out that it should be administered by a trained anaesthetist, he dismisses these two agents as well.

Bourne's answer to the problem of supplying a simple safe and effective anaesthetic for use by the occasional anaesthetist lies on the use of cyclopropane and the author devotes half of the book to a discussion of the merits of an apparatus that he has developed. It administers a preset mixture of cyclopropane, oxygen and nitrogen. Using this six-litre bag-gun apparatus, the dentist has about 90 seconds for an operation. This time factor according to the author is not a disadvantage. He bases his assumption on time statistics from the London County Council school dental clinics where operating time averaged about one minute per case. The sole disadvantage to this agent used in this manner is the occurrence of nausea and vomiting. However, the author feels its safety and effectiveness offset this drawback.

Bourne has presented a severe indictment of nitrous oxide anaesthesia as reportedly practised in the United Kingdom today. He documents his charges well and substantiates with a fair clinical trial his arguments for the superiority of his preset bag mixture method. This monograph adds little to our present knowledge and understanding of dental anaesthesia. The author stresses the dangers but his alternative, 90-second cyclopropane, sug-

gests a return to the "smash and grab" age of gas anaesthesia. It is unfortunate that he dismisses the use of nitrous oxide-oxygen

with halothane or trilene additives with but brief reference.

T. B. Van de Mark

THE LIBRARY

Additions

- AMERICAN MEDICAL ASSOCIATION. New and nonofficial drugs. Montreal, Lippincott, 1961. 849 p. \$4.00.
- AMERICAN MEDICAL ASSOCIATION. COUNCIL ON FOODS AND NUTRITION. Symposium on nutrition in tooth formation and dental caries. Rep. fr. the J.A.M.A., August 5, 1961. Vol. 177, pp. 304-321.
- ANDERSON, J. N. Applied dental materials. 2nd ed. Oxford, Blackwell Scientific Publications, 1961. 356 p. illus. \$10.75.
- BECKMAN, H. Pharmacology; the nature, action and use of drugs. Philadelphia, Saunders, 1961. 758 p. illus. \$15.50.
- BRECKER, S. C. Crowns: preparation of the teeth and construction of the various types of full coverage restorations. Philadelphia, Saunders, 1961. 495 p. illus. \$16.00.
- BROWNING, E. Harmful effects of ionising radiations. New York, Elsevier, 1959. 158 p. \$3.25.
- BURGEN, A. S. V. & EMMELIN, N. G. Physiology of the salivary glands. London, Edward Arnold Ltd., 1961. 279 p. illus. \$6.30.
- KAPLAN, M. M. Anatomy and physiology of speech. New York, McGraw-Hill, 1960. 365 p. illus. \$8.50.
- MINNESOTA UNIVERSITY SCHOOL OF DENTISTRY. A clinical manual of operative dentistry. Dubuque, Iowa, Wm. C. Brown Co. Pub., 1960. 162 p. illus. \$4.50.
- PEARSE, A. G. E. Histochemistry. 2nd ed. London, Churchill, 1961. 997 p. illus. \$20.00.
- QUIMBY, E. H. Safe handling of radioactive isotopes in medical practice. New York, Macmillan, 1960. 129 p. illus. \$4.50.
- QUIMBY, E. H., FEITELBERG, S. & SILVER, S. Radioactive isotopes in clinical practice. Philadelphia, Lea & Febiger, 1958. 451 p. illus. \$10.50.
- SALZMANN, J. A. ed. Roentgenographic cephalometrics; proceedings of the Second Research Workshop conducted by the Special Committee of the American Association of Orthodontics, July 7-9, 1959. Bolton Fund Headquarters. Western Reserve University, Cleveland, Ohio. Philadelphia, Lippincott, 1961. 195 p. illus. \$4.75.
- SHEPARD, E. E. Technique and treatment with the twin-wire appliance. St. Louis, Mosby, 1961. 157 p. illus. \$10.50.
- SOMMER, R. E., OSTRANDER, F. D. & CROWLEY, M. C. Clinical endodontics. 2nd ed. Philadelphia, Saunders, 1961. 620 p. illus. \$14.00.
- TARPLEY, B. W. Technique and treatment with the labio-lingual appliance. St. Louis, Mosby, 1961. 202 p. illus. \$10.50.
- U. S. PHARMACOPEIA. 16th ed. 1960. 1,148 p. \$10.00.

CHANGE OF ADDRESS

Subscribers to the *Journal of the Canadian Dental Association* should notify the Managing Director, 234 St. George Street, Toronto 5, Ontario, of their change of address before the 20th of the month, to become effective the following month.

IN MEMORIAM

Elliott Rupert Dixon — Dr. Elliott Rupert Dixon of Walkerton, Ontario died on October 6, 1961.

Dr. Dixon attended the Royal College of Dental Surgeons of Ontario. He graduated in 1921 and set up practice in Walkerton, where he practised for 37 years, retiring in 1958.

Surviving are his wife, Florence; a son Stephen and sister Mrs. Marion Fisher, both of Vancouver.

Robert Elward Fisher—Dr. Robert Elward Fisher of Toronto, Ontario died on October 28, 1961. He was 77.

Dr. Fisher was born in Alliston, Ontario in 1884. He attended the Royal College of Dental Surgeons of Ontario and graduated in 1909. From 1909 to 1910 Dr. Fisher practised in Seaforth, Ontario. He then moved to Toronto where he practised from 1910 until his retirement in 1957.

Surviving are his widow, Edith; a son Donald; brother Dr. Christy M. Fisher of Reddington Shores, Florida; and a grandson Robert Fisher.

Roy Alexander Gilbert—Dr. Roy Alexander Gilbert of St. Thomas, Ontario, died on November 2, 1961. He was 66.

Dr. Gilbert was born in St. Thomas in 1895. He studied at the Royal College of Dental Surgeons of Ontario, graduating in 1917. During 1917-18 he served in the Canadian Army Dental Corps. He practised in his

home town of St. Thomas.

Dr. Gilbert is survived by his wife.

Antoine Joubert — Dr. Antoine Joubert of Amqui, P. Quebec, died on September 10, 1961. He was 61.

Dr. Joubert was born in Sayabec, P. Quebec, in 1900. He studied dentistry at the Université de Montreal and graduated in 1927.

Louis Jules Lightstone — Dr. Louis Jules Lightstone of Montreal, P. Quebec, died on March 18, 1961. He was 58.

Dr. Lightstone was a graduate of McGill University, Montreal. He practised dentistry in Montreal for over thirty years.

Surviving are his wife, Kay; a daughter, Mrs. Eleanor Decklebaum; three brothers, Harry, Max and Ben; four sisters, Mrs. Mary Sonenberg, Mrs. Leah Woods, Mrs. Sarah Rosenbergs and Mrs. Ida Spear; and two grandchildren.

Harvey Russell Tweed — Dr. Harvey Russell Tweed of Victoria, British Columbia, died on October 8, 1961. He was 80 years old.

Dr. Tweed was born in Lucknow, Ontario, in 1881, and studied dentistry at the Royal College of Dental Surgeons of Ontario. After his graduation in 1907, he practised for many years in Winnipeg, Manitoba.

Surviving are his wife, Jane; a daughter, Jean; and a brother, Dr. H. W. Tweed of Winnipeg.

ERRATUM

A book review of the text, "A Manual of Practical Orthodontics" by W. J. Tulley and A. C. Campbell, published in the October 1961 issue of the *Journal* mistakenly listed Edward Arnold, London, as the English publishers of this book. John Wright and Sons, Ltd., Bristol, are the publishers in England.

ANNOUNCEMENTS

Conventions of the Canadian Dental Association

1962	Vancouver, British Columbia	June 3-6
1963	Toronto, Ontario	May 19-22
1964	Edmonton, Alberta	June 28-July 1
1965	Quebec City, Quebec	May 30-June 2

1967	Toronto, Ontario (Centennial Celebration of Dentistry in Canada)	May
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FUTURE EVENTS

Date	Function	Location	Officer	Address
Dec. 27-31, 1961	Alpha Omega Fraternity National Convention	Queen Elizabeth Hotel, Montreal	Dr. F. Vosburg	5292 Queen Mary Road, Montreal, P. Que.
Jan. 25, 1962	Academy of Dentistry, Toronto, 1st Stated Meeting	Faculty of Dentistry, University of Toronto	Mrs. N. H. Montgomery	230 St. George Street, Toronto 5, Ontario
May 13-16, 1962	Ontario Dental Association Convention	Royal York Hotel, Toronto	Mrs. A. Durham	230 St. George Street, Toronto 5, Ontario
24-26 mai, 1962	Congrès de l'Association dentaire de la province de Québec	Hôtel Chicoutimi, Chicoutimi	Dr. J. C. Simard	397 Racine Est, Chicoutimi, P. Québec
June 21-23, 1962	Atlantic Provinces Dental Convention	Digby Pines Hotel, N.S.	Dr. D. C. Eaton	Farquhar Bldg., Halifax, Nova Scotia
July 7-14, 1962	XIII Intl. Dental Congress of the F.D.I.	Cologne, West Germany	Dr. R. Braun	Universitätsstrasse 73, Köln-Lindenthal, West Germany

POSTGRADUATE AND REFRESHER COURSES (CANADA)

DALHOUSIE—The Faculty of Dentistry, Dalhousie University offers a postgraduate course in **FIXED PARTIAL PROSTHODONTICS**, February 26-28, 1962. This course will consist of instruction in the planning and fabrication of fixed partial dentures. The course will be directed by Dr. J. D. McLean, assisted by Dr. J. E. Merritt. Tuition fee \$50.

Inquiries and requests for application forms should be directed to the Dean, Faculty of Dentistry, Dalhousie University, Halifax, Nova Scotia.

TORONTO—The Department of Anatomy offers a postgraduate course in **NORMAL and PATHOLOGICAL ANATOMY**, February 7-9, 1962. An anatomist, histologist, and a pathologist will review and discuss the structure and function of the head and neck, and the problems of disease as they are manifested in dental practice. The course will be directed by Dr. J. E. Anderson. Tuition fee \$60.

Inquiries and requests for application forms should be directed to the Chairman, Division of Postgraduate Studies, Faculty of Dentistry, University of Toronto, 124 Edward Street, Toronto 2, Ontario.

POSTGRADUATE AND REFRESHER COURSES (U. S.)

COLUMBIA—March 5-10, 1962—Edwise Appliance Therapy (Course for Orthodontists)

COLUMBIA—March 4-16, 1962—Applied Roentgenographic Cephalometry (Course for Orthodontists)

NORTHWESTERN—March 19-23, 1962—Basic Oral Surgery

NORTHWESTERN—March 19-23, 1962—Major Oral Surgery

NORTHWESTERN—March 26-29, 1962—Complete Denture Procedures

OHIO STATE—February 5-9, 1962—Paedodontics and Interceptive Orthodontics

OHIO STATE—March 5-9, 1962—Removable Partial Denture Prosthodontics

PENNSYLVANIA—March 12-16, 1962—Crown and Bridge Prosthodontics

PENNSYLVANIA—March 31, 1962—Emotional Significance of Teeth and the Oral Cavity

TEMPLE—February 5-9, 1962—Periodontal Prosthesis

TEMPLE—February 12-16, 1962—Paedodontics for the General Practitioner

TEMPLE—February 17, 1962—Practice Administration

TEMPLE—February 19-24, 1962—Advanced Fixed Prosthesis

TUFTS—February 28-March 2, 1962—Applied Anatomy of the Head and Neck

Further information concerning dental meetings outside Canada is available at C.D.A. headquarters upon request. Information concerning postgraduate and refresher courses should be sought from the sponsoring institution.

L'Association Dentaire Canadienne.

JOURNAL

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Prothèse pour fissure palatine opérée

par JEAN NADEAU,* B.A., D.D.S., Montréal, P.Qué.

La réhabilitation prothétique d'un patient, qui a subi une intervention chirurgicale pour l'obturation d'une fissure palatine congénitale, constitue un problème difficile, surtout si ce patient n'a plus de dents au maxillaire supérieur.

Le manque de croissance antéro-postérieure, la crête de dépouille, l'absence de tissu osseux sous la muqueuse palatine, le tissu cicatriciel, tous ces facteurs compliquent l'adhérence et la stabilité des appareils de prothèse chez ces infirmes (Figure 1).

Les relations anormales entre le maxillaire et la mandibule imposent, dans la

majorité des cas, un montage inversé des dents et ce montage inversé compromet, à son tour, la rétention et la stabilité de l'appareil (Figure 1).

Le prothésiste doit avoir recours à des méthodes de nature à obvier à tous ces obstacles; le dentiste a avantage, dans chacun des cas, à établir un plan de traitements pré-prothétiques susceptibles de l'aider dans ses restaurations.

MODIFICATION DU REPLI MUQUEUX

Le dentiste peut tirer profit, grâce à la chirurgie, de modifications des tissus de support de la prothèse. Tout l'arsenal des techniques de chirurgie pré-prothétique doit être exploré pour donner à la crête

*Chef du service de prothèse complète à la Faculté de chirurgie dentaire de l'Université de Montréal.

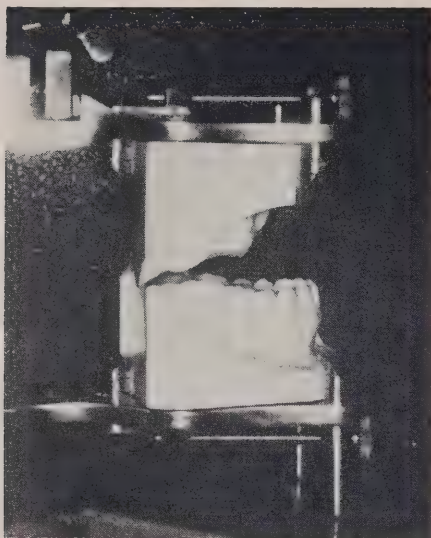


FIGURE 1 Modèles d'étude sur l'articulateur.

et aux replis vestibulaires une conformation aussi favorable que possible.

Nous avons utilisé avec succès, depuis quelques années, des greffes de peau qui augmentent la profondeur des replis vestibulaires et qui, indirectement, ajoutent de la hauteur à la crête.

Les techniques modernes de prélèvement de tissu par le dermatome électrique facilitent cette intervention; le travail s'effectue plus rapidement et d'une façon moins ennuyeuse pour le patient qu'autrefois, alors que les greffes de tissu s'accomplissaient par des geffons prélevés à l'aide de boudins.

Les fissures palatines, classe IV, se distinguent par leur absence de tissu osseux dans la région de l'épine nasale; le repli muqueux est presque inexistant, à cause du tissu cicatriciel qui obture le vestibule. La chirurgie pré-prothétique permet de créer un vagin de 8 à 10 mm. de hauteur et de 30 à 40 mm. de largeur (Figure 2). La rétention de la greffe se fait au moyen d'un stent's immobilisé "in situ" par des sutures transcutanées; l'épaisseur de ce support temporaire se détermine selon les besoins esthétiques de la lèvre supérieure.

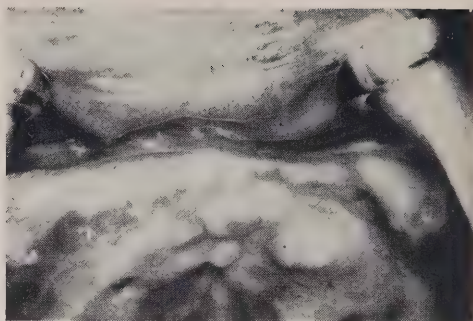


FIGURE 2 Etat du repli vestibulaire, après intervention chirurgicale. On note, au bas du cliché, les deux cavités muqueuses qui reçoivent les boutons rétentifs.

Cet appareil est laissé sous la lèvre durant 4 ou 5 jours et le patient, durant ce temps, peut s'alimenter d'une diète molle, liquide, semi-liquide.

Cette technique augmente la longueur du versant labial et la surface de contact de la prothèse avec la muqueuse buccale.

BOUTONS RÉTENTIFS

La rétention d'une prothèse complète peut s'améliorer par des boutons rétentifs (mucosa inserts) placés à la face palatine de l'appareil (Figure 3). Là encore la chirurgie peut aider la prothèse.

On localise, par des sondages à la voûte palatine, deux endroits où la muqueuse est particulièrement épaisse. On fixe à la partie intérieure d'une plaque temporaire en acrylique deux boutons de métal—ou de préférence d'acrylique (lucite) — aux endroits qui correspondent à ceux choisis dans la muqueuse.

Des incisions sont pratiquées dans la muqueuse du palais à une profondeur suffisante pour accommoder les boutons, mais en évitant le contact de ces boutons avec le tissu osseux.

On laisse environ cinq jours cette plaque munie de ses boutons. Le tissu cicatriciel, en se resserrant sur la partie la plus étroite du bouton, forme une gaine qui retient l'appareil. La différence

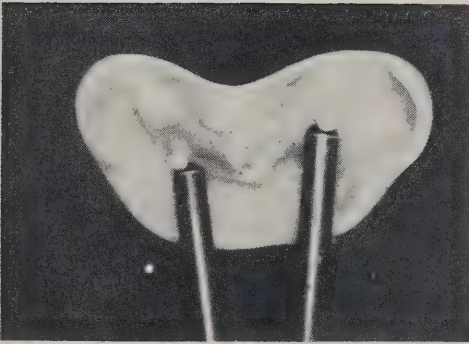


FIGURE 3 Boutons fixés à la face interne de la prothèse.



FIGURE 4 Ressorts de Pandel et crochets continus.

entre la partie la plus large et la plus étroite du bouton ne doit pas excéder 2mm., afin d'éviter des déchirures du tissu cicatriciel.

Des cavités se forment dans la muqueuse et des boutons identiques sont ensuite placés dans l'appareil définitif. Il faut noter ici que le patient doit garder presque constamment sa prothèse pour prévenir l'obturation spontanée des cavités muqueuses.

Le prothésiste, à ce stade, peut constater l'efficacité des mesures qu'il a mises en oeuvre avant la confection de l'appareil final; il peut placer des dents dans la cire sur la plaque temporaire et contrôler en bouche l'occlusion, l'articulation et l'esthétique et faire exécuter au patient des mouvements de propulsion, de latéralité, enfin tous les mouvements qui lui permettent de s'assurer du bon fonctionnement de l'appareil.

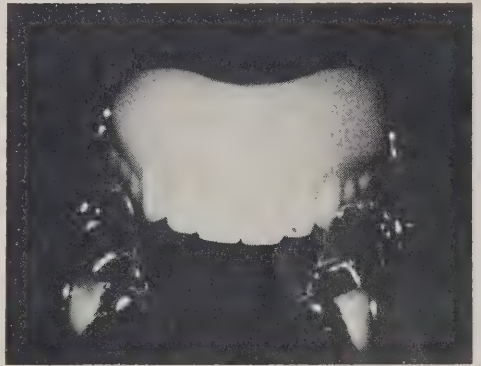


FIGURE 5 Relations des crochets avec les ressorts fixés à la prothèse supérieure.

RESSORTS DE PANDEL*

L'adhérence et la stabilité de la prothèse peuvent s'améliorer en utilisant des ressorts de Pandel (Figures 4, 5, 6, 7, 8).

Ces ressorts de Pandel† sont en acier inoxydable; ils sont tolérés facilement



FIGURE 6 Relations des tissus de la joue avec les ressorts.

*Nom de commerce.

†Ces ressorts n'ont rien de commun avec ceux que Greenwood utilisait, en 1789, pour maintenir en place les prothèses de George Washington, 1er président des Etats-Unis.



FIGURE 7 Appareil complété.

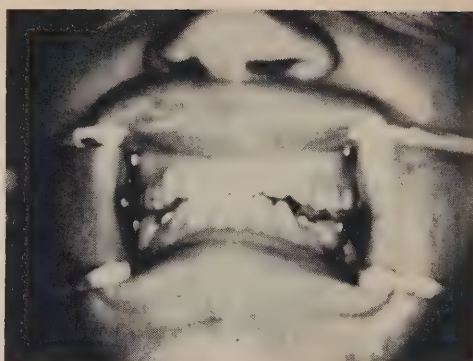


FIGURE 8 Appareil en bouche vu de face, en position centrale.

par les tissus et les aliments n'y adhèrent pas. Ils sont constitués par deux bras articulés, dont l'un se fixe au côté buccal de la prothèse supérieure et l'autre à un crochet double continu qui s'insère sur les dents inférieures.

Ces ressorts permettent les mouvements de latéralité et de propulsion.

Ils exercent en direction supérieure une pression d'environ 3 onces (pression bien tolérée par le patient) et contribuent à donner à la prothèse la rétention souhaitable. Des appareils de Pandel de diverses longueurs se trouvent sur le marché.

RÉSUMÉ

La rétention des prothèses complètes supérieures pose des problèmes considérables chez les patients qui ont subi une ou des interventions chirurgicales pour la fermeture d'une fissure palatine.

L'auteur, pour solutionner ce problème, utilise: 1) une greffe de tissu qui crée un repli vestibulaire commode; 2) des boutons rétentifs fixés à la face interne de la voûte de la prothèse et qui s'insèrent dans des cavités muqueuses; 3) des ressorts de

Pandel adaptés à la mandibule et fixés à la prothèse supérieure; ces ressorts exercent une pression en direction supérieure et jouissent d'une souplesse qui permet tout les mouvements de la mastication.

Mais les dents naturelles qu'on a pu conserver sur la crête constituent encore les meilleurs ancrages pour des prothèses complètes qui recouvrent ces dents.

SUMMARY

The retention and stability of full upper dentures for edentulous patients where surgery has been used for the closure of a palatal cleft (Class IV) presents major difficulties. These stem from lack of anteroposterior development of the maxilla, tapered form of the alveolar ridge, absence of bony tissue under the mucosa, presence of scar tissue, absence of the muco-buccal fold, etc.

The author describes the use of skin grafts to restore the muco-buccal fold, mucosa inserts attached to the denture, and Pandel's springs.

2900 boulevard du Mont-Royal

La céramique en art dentaire

par I. L. FEINCHNEIDER, D.D.S., Montréal, P. Qué.

CONSIDÉRATIONS GÉNÉRALES

La couronne complète en céramique (connue aussi sous le nom de coiffe, "jacket") conserve toujours sa place comme étant la restauration la plus fidèle pour redonner à une dent naturelle son apparence normale. Le dentiste, par ce genre de restauration, peut réaliser un quasi chef-d'œuvre capable de faire oublier à son patient le camouflage d'un défaut anatomique ou d'une manifestation pathologique. Les tissus dentaires et muqueux s'adaptent d'une façon physiologiquement parfaite au matériel utilisé en céramique.

La médecine buccale commande de nouveaux procédés techniques et la céramique répond à ces exigences.

Les progrès réalisés en diagnostic, à cause des découvertes sur les causes des pathologies buccales de l'individu, suggèrent des traitements plus efficaces.

La santé buccale—et partant psychologique—des patients s'améliore grâce aux méthodes modernes de reconstruction et de réhabilitation pratiquées par le dentiste contemporain.

Une meilleure compréhension des problèmes, un examen plus complet des facteurs présents révélés par la radiographie et des modèles d'étude, l'analyse de l'état constitutionnel du malade et l'histoire de cas permettent de poser un diagnostic plus juste et d'élaborer un plan de traitements plus rationnel.

On attache plus d'importance, depuis quelques années, à la question d'occlusion dentaire, car on s'est rendu compte qu'un bon nombre de dysfonctions de l'articulation temporo-mandibulaire et de pathologies de la membrane peri-dentaire et des tissus gingivaux étaient causées par un déséquilibre des rapports des dents

antagonistes. Un examen de l'occlusion et des radiographies de l'articulation condylienne s'imposent en présence de symptômes révélateurs de ces troubles spécifiques.

Une autre considération est importante quand il s'agit d'entreprendre une réhabilitation complète de l'appareil dentaire: c'est l'attitude du patient face aux déboursés qu'il devra faire pour ces traitements; sa réaction est conditionnée par son éducation en matière dentaire, son état d'esprit, son milieu social et ses moyens pécuniaires. Tous ces facteurs influencent le choix d'un plan de traitement et la collaboration du patient. D'une façon générale, les restaurations fixes sont préférables aux restaurations amovibles et les prothèses partielles aux prothèses complètes, quand il y a moyen de protéger favorablement les dents existantes.

Il vaut mieux s'abstenir d'accomplir une restauration, si on néglige, par ailleurs, de mettre en œuvre les principes fondamentaux de la santé buccale: l'articulation temporo-mandibulaire, les tissus péri-dentaires et les autres dents ne le pardonneraient pas!

Le dentiste, s'il n'examine pas l'ensemble de la cavité bucale, ne rend guère service à son patient—si ce n'est en cas d'urgence—en lui extrayant une dent ou en obturant une dent unique. L'obturation des cavités visibles à l'œil et le remplacement de dents absentes, sans préoccupation des autres dents ou des tissus péri-dentaires, reporte l'exercice de la dentisterie un demi-siècle en arrière.

LES COURONNES EN PORCELAINE

Les couronnes en porcelaine jouent un rôle esthétique et fonctionnel. Ces couron-

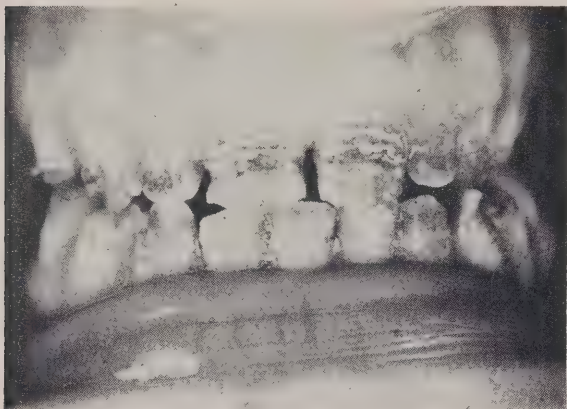


FIGURE 1 Malformation et érosion de l'émail exigeant des couronnes en céramique.

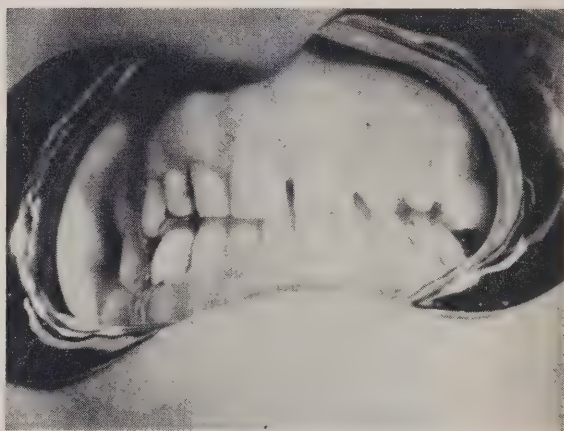


FIGURE 2 Absence d'incisive latérale, côté gauche; absence de canine, côté droit, causant diastème entre latérale et prémolaire.

nes, pour remplir leur fonction, supposent l'existence d'un plan occlusal normal dans la région des molaires. La confection de ces couronnes ne doit pas s'établir à la seule pensée de restaurer l'esthétique.

Il est inutile de recouvrir les dents antérieures de couronnes en porcelaine, si quelques molaires sont absentes; de même, rien ne sert de couronner une dent isolée, si le tiers de son alvéole radiculaire est détruit, même si les gencives paraissent saines. Il vaut mieux refuser une restauration partielle, si l'ensemble de l'appareil dentaire n'est pas en ordre: ce serait inviter un échec.

La cuisson de la céramique sous vide a

révolutionné l'art des couronnes; de même, la juxtaposition à haute fusion de la céramique sur le platine (procédé "microbond") a ouvert des perspectives illimitées au dentiste moderne; elle lui permet dans plusieurs cas le jumelage des couronnes et la confection de ponts à quatre unités.

Ces couronnes platine-porcelaine supportent le choc masticatoire des occlusions dites fermées, car le contact s'établit sur le métal en protégeant la céramique insérée sur la partie antérieure de la dent.

Elles permettent aussi de respecter les principes de l'articulation qui sont par-



FIGURE 3 Même cas que Figure 2 montrant la reconstitution de l'arcade à l'aide de couronnes en céramique recouvrant les six dents antérieures.

fois négligés à cause de la solidité des restaurations.

Trop de pulpes, hélas, sont traumatisées et trop d'infections secondaires sont occasionnées par de fausses articulations; comme, d'ailleurs, trop de membranes péri-dentaires et de gencives sont malmenées par des tractions de crochets non parallélisés et par des pressions déséquilibrées!

INDICATIONS POUR LA CÉRAMIQUE, PRÉPARATION DES PILES

Les couronnes en porcelaine sont utilisées partout où l'esthétique est en cause: hypoplasie et érosion de l'émail (Figure 1), couronnes fracturées, dents difformes et caduques, dents décolorées, dents très cariées ou restaurées à l'aide de matériaux disgracieux (Figures 2 et 3).

L'usage des tours à grande vitesse a simplifié la préparation des piles pour les couronnes en porcelaine; le meulage de la dent se fait plus rapidement et, à cause de l'absence de vibration, le patient tolère mieux le travail. Le dentiste dépense moins d'énergie, mais il doit faire preuve d'une plus grande dextérité.

Les instruments de choix sont actuellement les petites fraises "Carbide" et les pierres en diamant à friction. Le taillage des faces mésiales et distales peut se faire à l'aide des fraises à fissure en diamant Star no 699; les faces linguales et vesti-

bulaires sont meulées avec la meulette en diamant no 614.

Quand les quatre parois sont meulées, il est bon, à ce stade, de choisir la bague en cuivre qui servira à la prise d'empreinte. L'épaulement s'obtient avec une fraise en diamant no 01 pour les faces labiale et linguale; cet épaulement se poursuit aux faces proximales avec la fraise en diamant no 699.

Le gradin se termine à vitesse lente, à $\frac{1}{2}$ mm. sous la gencive, avec la fraise en diamant no 01.

La périphérie du bord de l'épaulement se biseaute ensuite avec des ciseaux à main pour favoriser la prise d'empreinte et ne pas nuire au contact de la couronne avec l'épaulement. Il n'est pas nécessaire de polir la pile avec des disques de papier d'émeri; les fraises de diamant fin lui ont donné tout le poli souhaitable; les disques de papier de verre ne peuvent que chauffer la dentine et irriter la pulpe.

La pile est isolée avec le vernis protecteur *Capolite*.

CAS PARTICULIERS

Les dents considérablement avariées peuvent être solidifiées par une bague coulée en or.

Si la dentine n'a pas suffisamment de volume pour supporter une bague, un bloc muni de petits pivots ("pin ledges")

ajustés et cimentés de chaque côté de la pulpe peut rendre de grands services et éviter la dévitalisation.

Les dents dépulpées peuvent se reconstituer avec un pivot radiculaire surmonté d'un moignon rétablissant la partie absente de la dentine.

DIASTÈME INTER-INCISIVES, DENTS ÉTROITES

La préparation des deux dents se pratique sans épaulement mésial pour se compléter par une bague coulée en or qui comble l'interstice et qui continue l'épaulement.

Les incisives inférieures ou les dents caduques chez l'adulte se préparent sans épaulement; l'absence d'épaulement est compensée à la face interne par un épaulement coulé en or sur douille.

Il faut donner à la couronne, pour lui conférer plus de résistance, une épaisseur identique dans tout son volume.

PRISE D'EMPREINTE, CHOIX DE LA COULEUR

L'empreinte d'une pile pour une coiffe en porcelaine se prend généralement à l'aide d'une douille de cuivre et de matériel caoutchouté ou du Stent de Kerr. Cette technique permet la galvanoplastie ou la confection du moignon en amalgame d'argent. Le modèle de la pile doit être assez dur et assez résistant pour pouvoir y brunir une feuille de platine et subir les manipulations du laboratoire. Certains revêtements proposés par les manufacturiers pour une cuisson directe ne sont pas au point et occasionnent parfois l'effritement du moignon. Une empreinte complète et une articulation des deux arcades sont indispensables pour retrouver l'occlusion centrique au cours de la confection de la couronne. L'articulation fonctionnelle est rectifiée en bouche; la céramique cuite sous vide élimine le problème du polissage de la face postérieure de la couronne.

L'esthétique d'une coiffe en porcelaine, surtout s'il s'agit de remplacer une seule centrale, est d'une importance primordiale; le choix de la teinte joue un rôle

aussi considérable que la morphologie et que l'adaptation de la couronne.

Un dessin quadrillé de la dent peut s'utiliser avec profit pour noter les diverses nuances, les stries et les particularités de l'émail de la dent adjacente.

INCONVÉNIENTS DE LA CÉRAMIQUE

Il est normal qu'un matériel dur, tel que la céramique, soit fragile, surtout quand il est porté à la limite de sa résistance; cette substance a donc les défauts de ses qualités! La céramique a toutefois une résistance suffisante pour résister à l'usure des chocs masticatoires.

Les coiffes de céramique se brisent parfois dans des circonstances anormales. Ces ennuis peuvent se prévenir par une sélection appropriée des cas, une bonne préparation de la pile, le contrôle parfait de l'occlusion et une technique impeccable de laboratoire.

Chacune des phases du travail de céramique doivent être exécutées avec rigueur et précision.

La porcelaine dure plus longtemps (sans risque de perdre sa morphologie) et possède une résistance égale à celle des autres matériaux dentaires, à condition de bien sélectionner les cas et de suivre rigoureusement tous les principes qui régissent son emploi.

CONCLUSIONS

La couronne en porcelaine s'utilise en dentisterie depuis environ un demi-siècle et elle conserve son rang parmi les restaurations de grande qualité; elle se classe en tête dans le domaine de l'esthétique.

La préparation des piles s'est grandement simplifiée avec l'avènement des tours à grande vitesse et les fraises en diamant. La cuisson sous vide donne à la coiffe une plus grande résistance et diminue le pourcentage des fractures, à condition cependant de surveiller de près l'élaboration de la pile et d'enregistrer parfaitement l'articulation fonctionnelle.

En somme, la couronne en porcelaine a

fait au dentiste une réputation d'artiste soucieux d'esthétique et de beauté.

SUMMARY

The porcelain jacket crown remains the best available dental restoration from an aesthetic standpoint. This type of restoration is indicated in a good many instances but the entire dentition must be considered when making a decision regarding its use. Diamond wheels and points and high-speed engines have simplified the technique for the preparation of abutments

for porcelain jackets. But in order to achieve good results, patients must be carefully selected and each step of the treatment at the chairside and in the laboratory must be meticulously carried out.

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5757 Decelles

Echos du voyage en Europe de l'Association dentaire de la province de Québec*

par PAUL SIMARD, B.A., D.D.S., D.H.D.P., Lévis, P. Qué.

La jeune Association dentaire de la province de Québec, de plus en plus alègre et vivace, compte une nouvelle réalisation: l'organisation d'un voyage à Paris pour les dentistes du Québec.

Le 3 octobre, 43 dentistes de toutes les régions de la province, la plupart accompagnés de leurs épouses, montaient à bord d'un Super Constellation de la Compagnie Lufthansa à destination de Paris. Dès le lendemain, débutaient les séances d'étude à l'Ecole dentaire de Paris. La variété des sujets traités ressort du programme scientifique dont voici la teneur:

La prothèse décollétée (prothèse à plaque base métallique décollétée)

M. M. A. Rivault: Principes fondamentaux.

M. H. Batarec: Tracé de la prothèse décollétée: Présentation d'un tableau électromécanique pour l'enseignement aux étudiants.

M. G. Soyer: Evolution de la prothèse décollétée.

M. G. Tabet: Les différents attachements utilisés en prothèse amovible et à ponts amovibles.

M. M. A. Rivault: Les ponts de porcelaine cuite sur métal.
Les ponts amovibles.

M. H. Batarec: Présentation des 20 cas types de prothèse décollétée réalisés.

M. G. Soyer: Les différents ancrages pour ponts fixes.

La parallélisation (paralléliseur à axe d'insertion visible).

M. G. Tabet: Les différents systèmes de dents utilisables et utilisés en Europe (pour prothèse fixe).

*L'Association dentaire de la province de Québec a eu recours aux bons offices de l'Agence de Voyage Claude Michel de Québec.



Photographie du groupe de dentistes et de leurs épouses s'embarquant à bord de l'avion qui les emmènera vers l'Europe.

L'impression générale pourrait se traduire par ces deux mots: surprise et découverte . . . Surprise de constater que nos confrères français doivent se former dans un milieu minable. L'Etat n'apporte aucune aide pécuniaire à l'Ecole, qui ne doit compter que sur les frais de scolarité des élèves. Les professeurs, mus par le feu sacré, ne jouissent d'aucune rémunération matérielle.

Le désintéressement n'a d'égal que le dénuement . . . Découverte que l'avancement des techniques françaises. A preuve le profond intérêt suscité entr'autres par les ponts amovibles et les divers ancrages pour ponts fixes.

Comment aussi taire cet accueil vraiment fraternel de nos confrères parisiens: chaude hospitalité, don d'un écusson-souvenir, réception, etc. . . .

L'une des phases les plus mémorables du séjour à Paris fut marquée par le déjeuner dans les luxueux salons du Pavillon Dauphine offert par le Cercle de l'Opinion dont le dynamique président est M. Gabriel du Chastain. L'Honorable Alphonse Couturier, ministre de la santé de la province de Québec, s'est prêté de

bonne grâce à l'invitation qu'on lui a faite de présider ce banquet et dans une spirituelle allocution a souligné l'importance du rôle du dentiste. De nombreuses personnalités s'étaient jointes à nos agapes. Signalons entr'autres, le Dr Jean Deliberos, président de la Fédération dentaire internationale, M. Antoine Veil, représentant du Ministre de la Santé publique et de la Population (ces deux derniers ont croisé les armes dans une "joute oratoire" corsée), M. René Garneau, Ministre conseiller près l'Ambassade du Canada en France, M. Max Filderman, président du Comité de rédaction de l'Information dentaire, le Dr R. Gabriel, directeur de l'Ecole dentaire de Paris, M. le professeur Marcel Monteil, président de la Société odontologique de France, etc.

Nous étions représentés à la table d'honneur par les Drs Gérard de Montigny et Claude Vachon . . . Le Dr de Montigny, invité à adresser la parole, a souligné les avantages des échanges France-Canada. Dans le domaine qui nous intéresse plus particulièrement, soit la question dentaire, il a souhaité et même prédit un

rapprochement plus marqué des Ecoles dentaires d'expression française des deux continents.

Le Dr Claude Vachon, président de la Société dentaire de Montréal, exprima la reconnaissance et les remerciements de ses confrères à M. du Chastain et plus spécialement au Professeur Marcel-Aimé Rivault, organisateur de la journée scientifique, professeur titulaire de la Chaire de prothèse à l'Ecole dentaire de Paris. Une splendide peinture, faite de fleurs et de graines, œuvre de l'artiste Yvonne Bolduc de Baie Saint-Paul, fut offerte au Professeur Rivault. Le Dr Vachon remit aussi au nom de l'Association un livre-souvenir de la province de Québec à Messieurs du Chastain, Vinant, Batarec, Soyer et Tabet.

Une autre réception fort goûtée fut celle de la Chambre de Commerce France-Canada. M. Jean Vinant, Délégué Général de la Chambre, exprima la joie qu'il éprouvait d'être l'hôte de Canadiens. A cette occasion, il fit don à l'Association du livre de Pierre Fauchard, "Le Chirurgien-dentiste", réédité à l'occasion du bicentenaire de la mort de Fauchard.

Le soussigné signala l'action de plus en plus sensible de la Chambre de Commerce France-Canada et assura M. Vinant

que les dentistes du Québec et leurs épouses conserveraient un impérissable souvenir de cette hospitalité toute française . . . Le volume de Fauchard enrichira la bibliothèque de la Faculté dentaire de l'Université de Montréal.

Le reste du séjour demeurerait libre . . . Suivant les goûts, nos voyageurs se sont dirigés dans divers pays de l'Europe . . . Un groupe de 22 personnes ont participé à une tournée en Italie. Ils n'ont pas manqué de se rendre au Vatican et Sa Sainteté le pape Jean XXIII a souligné la présence de dentistes canadiens. Les participants à cette excursion ont vite fraternisé et au retour l'on aurait dit d'un groupe d'amis qui s'étaient toujours connus. Tous débordaient de gaieté à un tel point qu'il était superflu de leur poser la traditionnelle question: "Avez-vous fait un bon voyage?"

"Heureux qui comme Ulysse . . .", la plupart parlaient déjà de récidiver . . . De ce voyage, il se dégage comme impression d'ensemble qu'il y a toujours avantage à se mieux connaître entre confrères et que seul le groupement de nos effectifs peut être le signal de fécondes réalisations.

8 Bellevue, Lévis.

Congrès de

L'ASSOCIATION DENTAIRE CANADIENNE

et de

L'ASSOCIATION DENTAIRE DE LA COLOMBIE-BRITANNIQUE

du 3 au 6 juin, 1962

au Théâtre Reine Elizabeth, Vancouver, Colombie-britannique

LES ACTUALITES DENTAIRES

Le Canada

PREMIÈRE SÉANCE PUBLIQUE DE LA COMMISSION ROYALE

La commission royale sur les services de santé a tenu sa première séance préliminaire publique, à Ottawa, le 27 septembre. L'Association dentaire canadienne avait délégué les représentants suivants: les docteurs William G. McIntosh, ancien président de l'Association et président du comité chargé de la rédaction du mémoire de l'Association; Don W. Gullett, secrétaire de l'Association; Mlle Isabel Boyd, directrice du Bureau des recherches économiques.

La commission avait convoqué cette séance pour un échange d'opinions entre les commissaires et les organismes qui se proposent de soumettre des mémoires dans le but d'établir une procédure pour son enquête.

L'Association dentaire canadienne, comme un grand nombre d'autres groupes, a présenté une brève déclaration de principes et des suggestions au sujet des domaines que devrait couvrir l'enquête.

Le comité directeur du mémoire de l'Association a transmis aux officiers de l'Association, à ses conseils, à ses comités, à ses sections et à ses gouverneurs des communications soulignant ses projets et les progrès accomplis dans l'élaboration de son travail.

La principale préoccupation du secrétariat de l'Association se situe actuellement dans cette collaboration avec la commission. Les dentistes canadiens peuvent être assurés que leur Association mettra tout en œuvre pour présenter un mémoire d'importance à la commission; ce mémoire sera une des réalisations les plus considérables jamais entreprises par l'Association.

L'Association dentaire canadienne

LE DOCTEUR H. MACLEAN NOMMÉ PRÉSIDENT DU COMITÉ DES SERVICES AUXILIAIRES

Le docteur Wm Miller, président de l'A.D.C., a fait part de la nomination du docteur H. R. MacLean, doyen de la faculté dentaire

de l'Université d'Alberta, comme président du comité des services auxiliaires. Cette nomination a été rendue nécessaire par la mort du docteur R. A. Rooney, qui fut président de ce comité durant de nombreuses années.

Le docteur MacLean faisait parti du comité depuis plusieurs années. Il est aussi président d'un sous-comité sur la formation des auxiliaires dentaires institué par le conseil d'enseignement dentaire pour étudier tous les aspects de la formation des auxiliaires dentaires. On aura bientôt le rapport de la réunion de ce sous-comité qui s'est tenue récemment à Toronto.

UN MEMBRE DU CONSEIL DES RECHERCHES NOMMÉ DOYEN

Un médecin, qui s'occupe de recherches et qui vient de passer une semaine comme conférencier invité à l'Université de Vermont, retournera, en janvier prochain, à cette même institution pour devenir doyen de la faculté de médecine.

Le docteur Robert J. Slater, 38 ans, de Toronto, fait partie depuis trois ans du conseil des recherches de l'Association dentaire canadienne.

On a dit que le docteur Slater était "probablement un des sommités internationales dans le domaine de la pathologie du rein chez l'enfant". Il est membre de l'institut des recherches de l'Hospital for Sick Children et assistant-professeur dans la section de pédiatrie de la faculté de médecine de l'Université de Toronto.

ASSURANCE POUR LES FRAIS DE BUREAU

Tous les praticiens sont invités à joindre l'assurance-groupe pour les frais de bureau, dont les détails ont été communiqués récemment à tous les membres de l'Association.

Le plan accorde la seule protection que peuvent avoir certains dentistes qui ne pourraient pas autrement s'assurer. Les candidats qui, à cause de raisons médicales, ne peuvent pas être assurés, ont été acceptés dans ce groupe à certaines conditions.

Les demandes de ces dentistes sont gardées en filière. Quand il y aura un nombre suffisant d'assurés, ces dentistes jouiront d'une protection complète et les conditions qu'on leur a imposées tomberont.

L'Association dentaire canadienne a autorisé des représentants qualifiés de la compagnie qui offre cette assurance, la Mutual of Omaha, à rendre visite aux dentistes qui ne sont pas encore assurés.

Tous les dentistes sont invités à consacrer quelques minutes de leur temps pour entendre les explications que leur fourniront ces représentants sur le plan et sur la façon dont ce plan s'intègre dans une organisation générale d'assurance.

Ainsi les dentistes qui ne peuvent pas obtenir d'assurance et tous les membres de l'A.D.C. pourront combler une lacune considérable dans leur système de protection.

Tous les membres de l'Association, actuels et futurs, malgré les maladies ou les infirmités dont ils souffrent, pourront assurer les dépenses fixes de leurs cabinets.

AGRANDISSEMENT DU SECRÉTARIAT

Le comité de l'immeuble du secrétariat s'est assemblé récemment pour étudier des plans en vue de la construction d'une nouvelle aile, tel que ratifié par la réunion générale annuelle de 1961 de l'Association. M. Robert McLeod, architecte de la firme John B. Parkin et associés, a expliqué les détails des plans.

La construction devrait commencer au printemps. D'ici là, il faudra voir aux bleus, aux permis de construction et aux soumissions. Le comité s'est proposé une série de réunions où les problèmes de construction seront discutés à mesure qu'ils se présenteront.

LES DÉLIBÉRATIONS DE 1961 SONT À LA VEILLE DE PARAÎTRE

Les Délibérations de l'assemblée de 1961 du Conseil des Gouverneurs sont actuellement sous presse. Les membres de l'Association, des bibliothèques, des organismes et d'autres personnes recevront leur copie d'ici deux ou trois semaines.

On s'est servi pour la première fois d'un nouveau genre de reliure, qui permet d'ouvrir le volume à plat et de le lire avec plus de facilité.

RÉUNION DES PRÉSIDENTS DES COMITÉS DE RECRUTEMENT DE L'OUEST

Les présidents des comités de recrutement de la Colombie britannique, de l'Alberta, de Saskatchewan et du Manitoba se sont réunis pour prendre connaissance du travail ac-

compli dans le domaine du recrutement et pour établir leur ligne de conduite.

Cette réunion tenue à Regina était sous la présidence du docteur R. R. McIntyre, de Calgary, qui est le représentant de l'ouest au comité national de recrutement de l'Association dentaire canadienne.

Le docteur McIntyre a exposé les grandes lignes d'un programme de recrutement qui a remporté un grand succès en Alberta. M. Ken L. Croft, secrétaire du comité national, a loué le travail des membres de ce comité pour stimuler le recrutement d'étudiants pour la chirurgie dentaire et pour aider les comités locaux et provinciaux.

Assistaient à cette assemblée: les docteurs John Michaelson, de Vancouver; J. J. Schachter, Walter Hancock et John Zaparinnek, de Saskatchewan; John Abra, George Brass et Gordon Campbell, de Winnipeg.

LE PRÉSIDENT DU CONSEIL D'ENSEIGNEMENT DENTAIRE NOMMÉ REPRÉSENTANT DE L'A.D.C. À UNE CONFÉRENCE NATIONALE

Le docteur Jean-Paul Lussier, de Montréal, a représenté l'Association dentaire canadienne à la conférence nationale spéciale des universités et des collèges du Canada, qui a eu lieu à Ottawa, du 13 au 15 novembre.

Cette conférence avait choisi comme thème "Les universités du Canada à l'aube d'une ère nouvelle".

Le docteur Lussier est président du conseil d'enseignement dentaire de l'A.D.C. et vice-doyen et directeur des études de la faculté de chirurgie dentaire de l'Université de Montréal.

Une des communications présentées à Ottawa traitait d'enseignement médical et dentaire.

Chronique internationale

ÉTATS-UNIS

Quarante-cinq millions de personnes consomment de l'eau fluorée.—Mille-neuf-cent-soixante-huit municipalités des États-Unis, au 1er janvier 1961, ajoutaient du fluor à l'eau de leurs aqueducs consommée par 38,477,000 personnes. De plus, il y a environ sept millions de personnes qui boivent de l'eau contenant naturellement du fluor dans la proportion recommandée. À la même date,

187 municipalités avaient cessé de fluorer leur eau et 13 d'entre elles avaient ré-adopté cette mesure.

Le Corps dentaire royal Canadian

RÉSULTATS DU CONCOURS DE COMPÉTENCE GÉNÉRALE ORGANISÉ PAR LA MILICE POUR L'ANNÉE 1961

Le trophée Moore, décerné à l'unité de Milice du Corps dentaire qui a fait preuve de la plus grande efficacité au cours de l'année d'instruction, a été gagné par la 61e Unité dentaire de Vancouver, commandée par le lieutenant-colonel F. K. Currie.

Le trophée Trelford, remis à l'unité de Milice qui est arrivée deuxième lors du concours, a été adjugé à la 57e Unité dentaire, dont le quartier général se trouve à Winnipeg. Cette unité est commandée par le lieutenant-colonel M. J. Snidal.

Le trophée Mémorial de l'Association dentaire de la Saskatchewan, présenté à l'unité de Milice qui a fait le plus de progrès sur toute la ligne, a été attribué à la 56e Unité dentaire de Toronto, commandée par le lieutenant-colonel A. Z. Henry.

Nous sommes heureux de féliciter les vainqueurs et nous signalons qu'une mention honorable a été accordée à la 50e Unité dentaire d'Halifax, à la 51e Unité dentaire de Saint-Jean (N.-B.) ainsi qu'à la 60e Unité dentaire d'Edmonton.

DES OFFICIERS ASSISTENT À DIVERSES RÉUNIONS

Le Colonel Shillington assiste à la réunion du A.D.A. — Le colonel G. B. Shillington, sous-directeur général des Services dentaires, s'est rendu à Philadelphie, dernièrement, pour assister aux réunions de l'American Denture Society et pour prendre part au congrès de l'American Dental Association.

Le colonel Millar prend part à un congrès à Kingston — Le colonel I. A. L. Millar, directeur des Services dentaires (Marine et Aviation), a pris part à un groupe d'études sur les manœuvres en campagne réuni au Collège d'état-major de l'Armée canadienne. Ce congrès a eu lieu du 23 au 26 octobre. *Le colonel Roger et 12 officiers de compagnies dentaires assistent à des réunions de dentistes —* Le colonel A. T. Roger, commandant de la 12e Compagnie dentaire d'Halifax, a assisté au congrès des dentistes

des provinces de l'Atlantique tenu à Charlottetown, en septembre dernier. Le major J. I. Gordon et le capitaine W. F. Shaw, qui prenaient part à ce congrès, ont présenté des exposés cliniques.

Le major T. C. Gaudet a présenté, devant la North Shore N.B. Dental Society, un travail intitulé: "Le rôle du dentiste en cas de désastre national et le soin des blessés".

Le lieutenant-colonel Butler à la Clinique d'automne de Montréal — Le lieutenant-colonel J. G. Butler, commandant de la 15e Compagnie dentaire de Montréal, a représenté le Directeur général à la Clinique annuelle d'automne tenue à Montréal du 23 au 25 octobre.

Le major Protheroe présente un travail à la conférence sur les recherches — Le major D. H. Protheroe a présenté un travail intitulé: "Les recherches dentaires dans le Corps dentaire royal canadien" lors de la première conférence au Canada sur les recherches dentaires, tenue à Toronto les 30 et 31 octobre.

RÉUNION DE LA REVUE ORAL HEALTH

Le major D. H. Protheroe a représenté le Directeur général à la réunion du bureau de rédaction de la revue *Oral Health*, tenue à Toronto le 27 septembre.

Le major J. C. Brick, d'Ottawa, représentait le Directeur général à la réunion d'octobre du bureau de rédaction de la revue *Oral Health*, tenue à Toronto, le 1er novembre.

EN RECONNAISSANCE DES SERVICES RENDUS EN FRANCE PAR LE CORPS DENTAIRE

Le Corps dentaire a eu sa part de l'honneur insigne conféré aux unités et aux services de l'Armée canadienne qui ont servi en France au cours de la seconde guerre mondiale.

Une cérémonie symbolique a eu lieu à Québec au mois de septembre 1960, alors que la comtesse Hettier de Boislambert, dame patronnesse du Régiment de la Chaudière, a présenté à Son Excellence le gouverneur-général du Canada un petit coffret contenant de la terre provenant des cimetières militaires canadiens en France. Le Régiment de la Chaudière de Lévis (P. Qué.), une des unités qui ont pris part aux débarquements du jour J, a été choisi pour être le dépositaire de ce coffret symbolique. Ce régiment a exprimé le désir que toutes les unités et tous les services qui ont combattu en France pendant la seconde guerre mondiale participent à cet honneur; c'est pourquoi chacun d'eux vient de recevoir une réplique de ce

coffret dans lequel on a mis un peu de cette terre de France. Celui qu'on a présenté au Corps dentaire sera gardé en permanence à l'Ecole du Corps dentaire, à Camp Borden.

LE BRIGADIER BAIRD SE REND À TORONTO ET À CAMP BORDEN

Le brigadier K. M. Baird, Directeur général des Services dentaires pour les Forces armées du Canada, a assisté à une réunion du sous-comité de l'instruction dentaire auxiliaire dont il est membre; à la suite de cette réunion, qui a eu lieu à Toronto le 25 septembre dernier, le brigadier s'est rendu à Camp Borden pour visiter l'Ecole du Corps dentaire.

ÉCHANGE D'OFFICIERS ENTRE LA MARINE DES ÉTATS-UNIS ET LE CORPS DENTAIRE

Un échange d'officiers-dentistes instructeurs a eu lieu entre l'Ecole du Corps dentaire de Camp Borden et la U. S. Navy Dental School de Bethesda (Maryland). Le lieutenant-colonel J. W. Turner, de Toronto, se trouve maintenant dans le service de couronnes et ponts de l'Ecole américaine pour un an, alors que le commandeur R. R. Troxel enseignera la même matière au Canada pendant la même période.

DES OFFICIERS SUIVENT DES COURS

Le colonel C. E. Purdy, commandant de l'Ecole du Corps dentaire, a suivi un cours sur les malocclusions à l'Université de Toronto; ce cours a duré du 16 au 20 octobre.

Le major M. P. Quinn, de Vancouver, a, du 23 au 26 octobre, suivi un cours de chirurgie buccale à l'Université de l'Oregon.

Le major W. R. Thompson, de l'Ecole du Corps dentaire, suit le cours "d'art dentaire avancé" d'une durée de seize semaines, au Walter Reed Army Medical Center, de Washington (D.C.).

Le major J. V. P. Chatwin, de Kingston, suit le cours de chirurgie buccale qu'on donne au Doctors Hospital de Toronto.

Les officiers dont les noms sont énumérés ci-dessous suivent le cours d'avancement au grade de major à l'Ecole du Corps dentaire: Capitaine D. G. Gardner, Capitaine H. G. Bunston, Capitaine G. M. D. Conrad, Capi-

taine G. D. Mollins, Capitaine W. F. Shaw, Capitaine V. M. McMaster, Capitaine J. L. Y. Cyrenne, Capitaine D. R. Girard, Capitaine H. F. MacKay, Capitaine G. I. J. Bisailon, Capitaine J. O. L. Bourget, Capitaine R. J. Bryant, Capitaine H. J. Cashin, Capitaine B. A. Goudet, et Capitaine G. T. Crossman.

LE CAPITAINE REYNOLDS DE NOUVEAU MEMBRE DU CORPS DENTAIRE

Le capitaine L. A. Reynolds, de Queensport (N.-E.), s'est enrôlé de nouveau dans le Corps dentaire après avoir exercé sa profession dans la vie civile pendant une courte période de temps.

AFFECTATIONS

Les nominations suivantes ont été faites récemment parmi les officiers dentistes:

Le major J. I. Gordon, qui était à Halifax, a été affecté à la Station de l'Aviation de Saint-Hubert.

Le capitaine J. R. A. Vincent, qui se trouvait à Montréal, a été affecté à la Station de l'Aviation de Goose-Bay (Labrador).

Le major A. L. Kelland, qui était avec la 35e Unité dentaire de campagne en France, a été envoyé à Oakville.

Le major J. A. Lauzière, qui était à Camp Shilo (Man.), a été envoyé à Winnipeg.

Le capitaine P. J. J. Coulombe, qui se trouvait à la Station de l'Aviation de Clinton, a été affecté à la 4e Compagnie dentaire de campagne en Allemagne.

DES OFFICIERS-DENTISTES PRENNENT PART AU CONGRÈS DE LA E.O.D.A.

Le lieutenant-colonel S. G. Bagnall, instructeur en chef de l'Ecole du Corps dentaire, était parmi ceux qui ont présenté un travail au congrès de la Eastern Ontario Dental Association, tenu à Ottawa, du 17 au 19 septembre dernier. Le sujet qu'il a traité s'intitulait: "Procédés employés pour le remontage des dentiers complets".

Ont également assisté à ce congrès, le brigadier Baird et le major Protheroe, de la Direction des services dentaires, le major A. G. Andrews, de la base de l'ARC à Rockcliffe, et le major J. M. A. Donely, de la 1re clinique dentaire à Ottawa.

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